

WEBINAR

The Government of Barbados and  
the Caribbean Telecommunications Union  
Present

TRAVERSING  
**THE METAVERSE:**  
A Caribbean Perspective

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## Traversing the Metaverse – A Caribbean Perspective

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(Rough Transcript)

### Michelle Garcia

It's my pleasure to welcome you to our webinar. Traversing the Metaverse, A Caribbean Perspective. I'm Michelle Garcia, communications and marketing specialist at the CTU. I'm your host now just to go through a few housekeeping rules to interact with our speakers kindly use the panel located to the right on this session. To open and close this panel, select the first icon of the site menu. The first option is live chat, where you can speak with other attendees and comment on the live session. The second option holds is where all polling questions will appear during the session. The next option is q will ask that all questions be placed in this section. Ease of repeated questions placed here will be directed to answer files. Should you experience difficulties while using the platform? Please email us at [events@ctu.int](mailto:events@ctu.int) for assistance. Today's proceedings it's also the stream to Facebook Live and YouTube I would like to welcome our almost 900 participants on this platform today. The biographies of overall speakers today can be viewed I would now like to invite Rodney Taylor the Secretary General of the CTU to make welcome remarks. Mr. Taylor?

## **Rodney Taylor**

Thank you Michelle. Good morning everyone. I am Rodney Taylor as Michelle pointed out, secretary general of the Caribbean Telecommunications Union, or CTU for short. And I just like to start by saying that the CTU was founded by CARICOM heads of government way back in 1989. And they were conscious of the need for harmonized telecommunications policy within our CARICOM member states. CTU provides advisory services to CARICOM ministers who have responsibility for information and communication technologies or ICT are short, of course back in 1989, the technological landscape since 1989, the technological landscape has changed dramatically in 1989. If you recall last year, Tim Berners Lee invented the World Wide Web I'm sure that not even he envisaged thing called social media, online video sharing platform and let alone a metaverse.

But that's the nature of technological innovation. It happens with or without policy and regulatory frameworks, even though bad regulatory frameworks can serve to stymie its growth and development. But it is inevitable. And so I'd say to you, we think it is important to have a discussion on this trending topic. First to bring a regional perspective to bear on it. And in so doing help to build public awareness of the technological developments that are shipping the so called metaverse, your opportunities, challenges and risks and the skills that we need to focus on if we are to be at the forefront of this new technological wave for some metaverse is the Internet reimagined. It's the next most exciting evolution. Others would say it's akin to the.com dotcom bubble of the late 1990s. A nefarious plan to create the dubious underworld. So others were saying it is too early to even pronounce on it. In 2005, I published some research on E commerce diffusion in small island developing states which looked at how institutional interventions can help drive the uptake of technology certainly within the Caribbean context, and given our political systems, government policy is critical. But it is not the only ingredient. There must also be a corresponding demand by citizens and significant private sector capacity to innovate and provide technological solutions within the local economy.

One thing we must never never do in the region is to relinquish all technological innovation to the so called developed country, and to be consumers of technology, technology products and services residing in a distant cloud alone. We too, we have too much regional talent for that. Yes, we must build mobile networks and collaborate. But we must also take ownership and we crossed many of our feet. If I may, if I may borrow from the national anthem of Barbados, which is a lovely segue into the partnership to host this webinar by the CQ, and the government of Barbados. Barbados, of course announced its intention to establish an embassy in the metaverse for example, this extended global diplomatic reach in this new frontier. More recently, I've seen

pronouncement by St. Vincent and the Grenadines in relation to the hosting of a carnival in the metaverse. I say, go for it.

I want to acknowledge the work of our next speaker, His Excellency, Mr. Gabriel Abed and being at the forefront of this and other initiatives in Barbados. And indeed the region because our small size should not be a hindrance. So today, we have three things, as I mentioned, the first in the form of a knowledge cafe, basically a conversation about the technologies underpinning the metaverse. You've heard about non fungible tokens or NF T's blockchain virtual reality or VR, cryptocurrencies and others. Our objective is not to make you experts in this terminology, but to provide some level of exposure to the terms and why they are important. What makes this technological convergence different from what obtains now with older Internet technologies must also look at the business or economic opportunities, challenges and risks. There are trillions of dollars to be made if you believe in predictions, but there are also challenges as well. For one thing, are we too late in the game and the region as you know, technology moves very quickly.

Do we have the political will? The right regulatory frameworks, frameworks, the right legislation, the right people? What about the threats of cybersecurity data breaches a bit of privacy? Lastly, what skills do we need to be focusing on or to give our young people opportunities in this new frontier? And then please on that note, to say that the last session is being moderated by one of our CARICOM Youth Ambassadors, Java See, one could say that with a name like Java, he was born, but this in addition to developing our young talent we must also be able to attract talent here in the region as well. I have repeatedly said that if I can work anywhere in the world, why would I want to be covered in 30 inches of snow, when I can be a beach in the Caribbean with good fiber connectivity back to my head? office somewhere else? COVID-19 has shown us most definitive terms that we can in fact work from anywhere in the world. And kudos to those as many as nine Caribbean countries that have embraced this new opportunity, which is already being paid dividends have said enough so let me close by thanking our close to I think you got another 100 this morning. registered participants a record for a CTU webinar, which is it is my intention to break. I think that's what records are for.

I want to challenge you to work with us here at the CTU in whatever capacity you can to help us in this region that we love forward. We have to tell them, we have to we have been blessed by nature, the most beautiful surroundings with beautiful people generous in spirit and welcoming to the world. That is embrace this opportunity and let us be pioneers in shaping the future of the Internet. Without further ado, I welcome His Excellency Mr. Gabriel Abed ambassador for bidders United Arab Emirates to kick off the chat. Joining him will be Mr. August Sebastian and Mr. rish beaker founder and CEO of super road. I thank you for your time, your interest and your

participation today. Your Excellency, it's over to you, I'm sure want to bring us greetings from your neck of the universe and help us delve into what really is this thing called the metaverse over to you?

**Gabriel Abed**

Good afternoon, but in some cases in the Caribbean, good morning. I'm calling in from the United Arab Emirates from currently posted. I just want to commend the Telecommunications Union on putting this on today. I think you started off by saying SGX is it's very important that the Caribbean embarks on these types of technologies, because they inevitably represent the future. And we're quite fortunate today. That Mr. Sebastian sandbox and refresh of super world are joining us. And I look forward to a lively discussion, where we dive into the various nuts and bolts of the metaverse world with that being said, Do we have Sebastian and, and rush on at the moment? Yep. Great. I think the first thing that we could jump into, and I could probably pose this to either of you guys. The very basics, if you can both. I know the metaverse right now there's a lot of confusion about what it is and what it is not. And I would appreciate if either of you could start off by giving our panelists and our audiences. The definition in your view of what the metaverse is like to start,

**Sébastien Borget**

Hrish?

**Hrish Lotlikan**

Feel free, feel free, but I can I can go ahead. Yeah. So you know, in my view, the metaverse is a combination of your life online offline. It encompasses all of the virtual worlds and platforms. Essentially it is a persistent interface that enables you to do everything that you love and enhances your life through you know the work your play education literally every aspect of your life.

**Gabriel Abed**

Sebastien?

**Sébastien Borget**

Wow, I like to add to that, yeah, for us is also about like being able to access new type of experiments more social more immersive, into a series of digital power that universities the actual worlds through another job through a 3d representation of yourself that you can carry across all those multiple different virtual world, which means that there is this notion of your identity is actually truly yours in a sense of it can be used and move across different application, services and world, which is currently not the case in too many so called metaverses, which effectively are just virtual world of video games, but closed environments owned by one single entity. Operating it

and not really allowing your users to carry their digital identity, asset and currency across the board.

### **Gabriel Abed**

So in a way, we can consider the metaverse a much more immersive version, what Internet has to offer in terms of communication and social interaction. But more recently, and this is in the last couple of months, we've seen one large company come out with a three branding to the Mac, two meta, i.e. Facebook, and there seems to be a lot of confusion from the market of is the metaverse just this one place to visit. And I would like for the audience's benefit for us to go into that particular question. Is there a single metaverse?

### **Sébastien Borget**

Well, I'm not surprised when I see like this company Facebook, announcing from one day to another like they're rebranding themselves like Facebook has been. It's currently touching the life and backing the life probably 1 billion people more or less which are using it on regular basis and without any specific announcement before even like even the announcement they did. It's it's not really answering to a lot of question around like, okay, we're rebranding ourselves. We are becoming metaverse. What does it mean? And that's, like not really satisfying what they shown to the world about it. So that's triggered a lot of questioning a lot of attention of course, and also a lot of concerns because people into volume 20 today and further 21 They are more aware that like they were actually like being collected data upon to be sold and resold that data to advertisers and so on. They they've seen like a lot of issues we could not be on privacy around like how Facebook has been impacting society as we know biting politics as well and for the good and from time for not too good, the worse. And so like we're evolving into a more complex world around notion and honestly I find it's, it's really not enough what they've shown to to really push through the idea of metaverse, and it's not enough particularly as the core of their business model, which is like around user data collection, and monetization. If nothing were told about like anything that could have pushed two or more web free, more community and user driven, less centralized approach, they refer to it as an ATM blockchain and they say we're looking at it but well, who knows? Like that's not for us now to basically the left out everything that might have some promising towards a better Internet and everything better for users.

### **Hrish Lotlikan**

I agree with those points, as well, I think centralization is really, you know, not the future of the metaverse. So you know what, what Sebastian was talking about in terms of the concepts of creating very open interoperable models, is I think this is where it's going. And so I would say

there is one metaverse it is a combination of all these virtual worlds but they're open and interoperable.

### **Gabriel Abed**

Can you go in a bit deeper about what this future interaction looks like? And specifically touch on something that Sebastian started on, which is the web three component of it all? Because on one end in the past, you know, as early as over a decade ago, we saw platforms like Second Life come out and offer the first of its kind or the first many of its kind of metaverse is we've subsequently seen Roblox and other companies come out offering meta verses. But more recently, in the last couple of years, we've seen actors like yourself and sandbox somnium decentraland Come out and they fundamentally redefine what the metaverse is meant to be. Can you can you go into to specifically what you started to touch on, or why it's different?

### **Hrish Lotlikan**

Yeah, I think that the concept of permitting enabling, and, you know, assisting the community, being formed and thriving in a virtual world as part of the metaverse is a very important part of the future of what we're building. So, you know, again, how can you enable people to come together in an environment where they can cooperate, where they can have ownership, where the how they can have transparency in those transactions? You know, so we're I think we're all really building you know, tools to give our community the ownership of the content. They're producing the you know, whether it's a Dao, decentralized, autonomous organization that allows them to come together and actually raise capital for a certain cause, you know, there's there's a lot of technology here, particularly on the web three side, that really changes the game for the new models that we're, we're, you know, enabling here for our community members. I also think that you know, as Sebastian you know, aptly touched on the types of immersion are enabled by AR and VR audio, soon to be haptics. So again, we're able to really go in to these worlds in ways that we haven't been able to do even in Second Life, which was amazing. And, you know, Phil Rosedale, really, you know, I think we were all kind of, you know, standing on the shoulders of giants here. So there has been a lot of progress over the last, you know, 2030 years in this space. So, you can't discount that but you know, I'm really excited about what Sandbox and Animoca and you know, the variety of other companies Secentraland A lot of them are doing in this space, what we're what we're working on it super world, as an example is more focused on reality in the real world. And so again, I think that we can we can kind of serve as a gateway in terms of what we're doing to all of these other other worlds and other ways that people get together and that that's our goal, but I'm very excited about the whole space and what the way that we're enabling technology to empower our community.

## **Gabriel Abed**

Hold on. I want to take this back just a notch. Because we have audience members that are now tuning in for the first time. They've heard the term metaverse thrown around, you know, to them. The basic question is, what's the difference between the metaverse and a website? You know, I can access a website from my computer I could view content I can watch videos I can interact socially. So let's just take it back a notch to touch on that layman aspect of what was the difference here.

## **Sébastien Borget**

As I was alluding to in my in my in our understanding of the metaverse is more than that I could 2d interface as a website where information is actually created socially or broadcasted to you from one central entity. The approach we are seeing in the metaverse is like really yourself being projected to another meaning like you have your physical self and then you have your virtual self that are actually capable to engage with different experiences with other users into values, activities that that range, I think into many parts and slice of life in a way like you can of course work on the metaverse of meeting business meeting you got them for runs, a job fairs, etc. You can play games, but there's so many different flavors of all the kinds of things you can experience as well as you walk through your avatar into this mode with one or multiple virtual worlds. And include like the extra concert at gallery Museum, the actual shows, games, parties and more. You get to own everything you build and you get rewarded for your engagement, your presence into those virtual worlds.

It's also a very different approach to wildlife. What's the value of your time being your presence and the content you help create, to populate this world made with new virtual world of worlds of experiences? One other thing Yeah, and I think it's quite important like the whole web two and all the social services are built on user contribution however, like what usual got in return is very little like I don't think like a lot of the population that engage with social media can say they're making revenue or even leaving out of it. It's such a tiny portion. And it's still very limited into like how the agencies have access to it and the review distribution across countries as well. But in the metaverse with new form of web, web three, decentralized based metaverse, we're pushing for, like the value distribution going back 100% to the users and creators. It's really enabling new paradigms in the way we're approaching the design of that world and the value of it and to put it concretely speaking, we're seeing countries in what we would call less developed economies being on par with top tier economies in the metaverse. It's a greater equalizer of chances for by those new US users participate into building those digital nations online.

## **Gabriel Abed**

This is this is quite interesting and and you and both you and rush have thrown around a term that I would ask you before I asked my next question is is helpful for our audience to find web two and web three because you guys have been using that term quite a bit. And you have to remember that that person's majority of the persons on this call are from the Caribbean, and they're now being exposed to these types of systems. So for their benefit, what is web two and what's web three?

## **Sébastien Borget**

Alright, I'll start so essentially, we yes we think there is free version of the Internet in salt initially, web one, basically people or companies publish website and the information on this website is being consumed by people, visitors, people like you and myself. We brought the web, but we don't contribute to that information. Basically, this is just like one way of consume in web two. To put things simply, it's essentially the social web. So basically, the platform and the content evolve as users keep contributing to more content to watch it in the form of like, a texting form or with blogging in the form of photos, videos and music files or media file as well, but they share to work their peers and social networks. Most of the giant of Internet went to rely on user generated content and social media essentially. So we are thinking and they became the top platform in web two, like we call them the Gaffar. Now, the main issue is like, it went to all that content is being submitted by users, but it's still controlled by those few entities. That gets to decide like what information can be put on or not put online. Or it can be moderated and what happens in terms of like your own data, your own content, you submit, how you're being attacked online, etc.

So it created a lot of divergence patterns butters, that, that actually I've been feeling the whole economy behind, based on like, collecting data and selling data for advertising and transactional things and the value that is extracted from the user data is only captured by sell single companies. It doesn't go back to the people who contribute to build that web, the government or any other entity, even not media. So people complain that it's hard to build a business model where Hold Value goes to just the platform itself. To build something better. So web three is positioning itself with the promise at the core that it's it's built on user owning their own data using their own starting with the ways they sign in into websites, web wallets, the main point of signing in into the web, Freebase Application Services website. And the data you own is actually you carry into your white LEDs that that hold your access with your private key to entries into a public ledger public online database which is a blockchain to put things simple. I hope I was generic enough.

## **Gabriel Abed**

Hrish if you want to add anything there,



## **Hrish Lotlikan**

you know, I think that's an amazing, you know, explanation of the differences. I would I would say that one of the interesting things that web three is bringing us you know again, to to reconfirm I think really is the ownership but also in addition to that, you know, I think you're gonna see a lot of, you know, you know, non human kind of interaction there, you know, bots, you're gonna see, you know, the because we have a more, you know, trustless system, you're going to be able to interact with entities like Dows you're going to, there's going to be a lot more, you know, incorporation of AI and machine learning into those systems. So I you know, I think that decentralization of ownership brings a lot, you know, a lot of other components there that we're going to see evolve in, in the advantages of web three over web two, I think we had interoperability in web two in certain ways. That you know, as Sebastian said, you know, the ownership and then these other technologies that provide that trustless ecosystem and the blockchain is going to really enable us to do so much more together as communities but also, you know, even as a as a as an individual, being able to interact with, you know, entities that we can have that authenticity of relationship, even if they're not, you know, human per se, they could be, you know, all different types of structures.

## **Gabriel Abed**

Okay, so let's recap there. We've touched on the metaverse being this virtual environment, this virtual 3d environment much more interactive and immersive that lets users enter and participate in a new type of world. And predominantly, the superior version of these meta worlds is driven by web three infrastructure, which basically means that the user owns and controls the content. And because they own and control the content, they can move from one matter world to another with their virtual content. So if we were to think of St. Vincent, for example, announcing they're doing their carnival in our they would like to do a carnival in the metaverse if we think about a carnival costume, ICANN, a 3d designer, like we are seeing out of Trinidad, a young lady named Anya [name] has designed this incredible 3d outfit for them. Which is called an NFT, a non fungible token. And basically, she can take this avatar of her carnival costume, wear it in the Superworld. And similarly, take it out of super world and go on access sandbox, and were there as well. So that's a pretty interesting evolution of what we're seeing from Internet communication and connectivity. But it goes back to it goes back to a key point here, which has been touched on quite a bit. And it's why why blockchain why are we using Blockchain for all of this? I mean, surely, you know, you look at groups like Second Life, Facebook's Meta, Roblox, Microsoft, all these various players entering the industry. But why is it that you gentlemen are speaking about blockchain as a component in this in this particular event?

### **Sébastien Borget**

Well, so far, like we mentioned, like there's only two way to store information either you storage into private centralized own databases operated by private companies, and that's what we've seen so far. Like by most of the platform, we interact and bought in web two or you rely on technology that enable like information to be stored in a distributed manner. And that has been ensuring providing so far enough confidence and trust level because it's backed by technology itself, and a number of computers in a large network. That makes it not impossible, but provably hard to attack and change information into the network. And that technology so far, and maybe will be another one in a decade, two or more. But so far, blockchain has proven that it is efficient and it's all can already be used for values application, including cryptocurrencies and the finance system. So in a broader scale, and FTS, were presented, any sort of digital assets can be like art, music, video, game items, virtual land, avatars, and NF T's are actually recorded on the blockchain that provide the proof of ownership, the proof of authorship who made it the proof of scarcity, scarcity and that is a great application for what we are looking to achieve, which is to ensure that did that information is public transparent, can be trusted, and it cannot be modified or altered by a third party.

### **Gabriel Abed**

Okay, so if I could, if I could ask something that I think is on everyone's mind. Currently, the metaverse is we're seeing are the polygons are the fidelity is very low at the moment. And it's more akin to a cartoonish slash animated type experience. Can you explain why that is and what we could expect for the future? Is this the way things will always be? Are we always going to expect that the metaverse and our experiences will be done of a cartoon character?

### **Sébastien Borget**

Alright, I can start and you can see some of those example cartoon we call them voxel 3d characters. Well, because we are evolving in the virtual world, I think we can let our imagination like go and dream bigger than necessarily what we're seeing into the physical world so we can create content that experience that definitely go beyond the loads of physic beyond our imagination. And we are not necessarily attached to only try to represent with the highest fidelity, like the traditional world like trying to create like meta human or hide, capture. The second thing is like the computing power and cost of storing data to actually make high definition capture of almost reality photorealistic humans. It's still very high as of today. Plus, it will require so it's expensive. It's long to capture and it will require very high hand devices on the user side to actually render that like you can do that on PlayStation five and older hardware, but not on any device. So at the moment to scale fast in both content production and adaption and rendering we found that a simplified aesthetic representation that still very gamified actually four sandbox is

not the only representation possible, but it's one that is compelling that allows enough creativity behind for everyone and so far brands, companies creators are liking it enough. To engage into his world and be proposed a new sort of experiences.

### **Hrish Lotlikan**

Yeah, you know, I think that, you know, to Sebastian point, there, the technology is definitely, you know, still evolving and as we go through that evolution, you know, at least what we're thinking about it super world is, you know, how do we, again, adopt kind of what the latest technologies are out there and keep keep doing that as as technology gets better, there's been a number of inflection points on the technology side, over the past, you know, five to 10 years that we've kind of seen that have enabled what we have now, right, whether it's mobile 5G, you know, AR VR software, the hardware with headsets and what's possible in terms of accessing all this content, as Sebastian said, that's going to evolve. And so as it evolves, you know, the quality of and the resolution of what you're seeing is going to improve and the ability to provide that high resolution is going to improve in terms of what can be accessed to the end device. In terms of our vision and super world, it's really about reality. And so, you know, to get to that level, take some time in terms of all the technology that's really behind that. But I think, you know, ultimately, you know, I think our goal, I think all of our goals is really to to provide tools for anyone to achieve whatever they want to whatever they want to see and do, right. Whether that is a high rez type of environment or even something that's a bit more animated, or, you know, a bit more stylistic, so everything is possible. And that's what I'm excited about.

### **Gabriel Abed**

You know, and I think this was used to bash and then it said this. One of your answers were smaller nations and developing nations in the metaverse have an equal footing or or or parity with large nations, basically, meaning that the playing field has been leveled. And I think that's a very interesting point specifically because today we're hosted by the Caribbean telecommunications unit and the government of Barbados. And one of the key things that we're looking at from the position of this technology is how can this enable economic growth? How can this better the lives of the average Caribbean person? How could the young entrepreneur utilize this environment to advance themselves? In advance of businesses? And if I can bring it to a more contactable position here that's relative to our audience. Let me throw out something to overview and I like both of your answers on this. It's what do you think the average Caribbean person can expect out of these platforms in the medium and long term? And why should they even care? harass you, you can kick it off for us if you feel comfortable?

## **Hrish Lotlikan**

Sure, sure. You know, I think that the beauty of what Barbados has done as well as you know, all the other organizations in support of the initiatives here like the CTU, and you know, we're working with the Caribbean Disaster Management Association and the Caribbean and the World Bank. And, you know, there's a variety of organizations here that have really shown leadership and, you know, again, the community, the citizens of Barbados, that is the reason that we're doing this is to provide, you know, services to them at the highest levels. And I think that you know, the the promise of being innovative, sometimes it can be risky, because you're taking that leadership role. But the benefits of that are, first of all, you're learning. You're learning about how those technologies are being adapted at the forefront at the frontier. Of what anyone is doing in the world. And that that really, again, takes a lot of leadership and insight. And you know, bravery, but that will pay off because the citizens will understand you know, how to start interfacing with those technologies. Whether it's blockchain or web three, or whether it's AR or VR, you know, once you start providing the exposure, especially to the younger population, who are already benefiting from this and school, either in you know, you know, computer science courses, they're already having that exposure to so to see it from the top to see it from someone like yourself, ambassador who's helping, you know, the the leaders of your country who are helping kind of promote this really gives a lot of people inspiration, and that that's what I'm really excited about and proud about. And you know, again, as the technologies evolve, the ways that citizen really can get involved with blockchain can get involved with these other immersive technologies is only going to get better. So take a start and do that. That's the first step and that's what's very exciting to me as a country. So thank you for what you guys are doing in the space and the leadership you're providing.

## **Gabriel Abed**

You're welcome. And it's it's quite a interesting point you raised is that and I share this opinion with you is that the education and the learning in the early is so critical. I could only think about what the region would look like today, if majority of the population was exposed at a high level to what the Internet was in the early 1990s. When I think about that from a concept position, I think wow, we could really have been the pioneers of the new types of businesses. Maybe Amazon or Microsoft, or Instagram could have been founded in Trinidad or Antigua or Barbados. And it's really, you know, I think the jury's still out, and what the possibilities of the next generation of businesses are going to be in the metaverse. I think I think where we are is still extremely early in the metaverse, so I do appreciate your point rush. Sebastian, why should the Caribbean people care about the metaverse? People in general for that matter?

## **Sébastien Borget**

Yes. So Well, the first thing is like through events like today, we get to talk about this topic, which you might or might not have been much exposed before so at least it's raising awareness about the possibilities and opportunities beyond the world in my opinion is going beyond borders, basically into this digital world and the kind of skills you need to start building or accessing the metaverse. Those are probably not yet skills that you will be taught at schools, anywhere in the world. And by the way, I'm not 50 only in the Caribbean. But yet, like anyone from anywhere in the world can access those and can become a new leader in the space. So the earlier you're positioning yourself, and you're helping to support like that next generation of builder of architect or fashion designers and people who can also influence the rest of the metaverse for their future for the interview stage for their values carry about as we initially introduced, I think it's interesting and we are already collaborating with a certain number of initiative in the space like Ministry of Culture, etc to bring on the local ethnic culture to the world. We've done that in Korea. We have an issue here in Philippines. And I think like the culture of Caribbean is one that's worth promoting, and also ensuring in perpetuity for the metaverse to an even richer global scale and reach. And if you can generate a revenue as well from the activities, that's an even better incentive overall, for motivating, engaging and genuine positioning yourself into this new realm.

## **Gabriel Abed**

Wow. So what's interesting about what you said was, you're absolutely right. The Caribbean is so rich in culture, and we have such a diverse talent pool in vain. You know, we have some amazing artists and musicians and just people have have great content creation. So the metaverse becomes this container where I can enter it and represent my my creations and a new way to attract a global market and hopefully, in some cases, even foreign exchange just beyond eyeballs. And Allah. I don't think I've done service to both yourself Sebastian, fresh, you know, you two are pioneers in the industry. So I should have probably started off of this and forgive me for not, but why don't you spend 30 seconds, two minutes each telling us about what you guys are doing, what your platform represents? And then we'll take some questions from the audience which I'll ask Michelle from the CTO to to CTU to Tia. So before Michelle does, Sebastian Why don't you go first, because no sandbox is absolutely one of the leading players right now. You guys have done so well in the market, in terms of what you've brought to the industry, the type of performance that you've been able to put out there in terms of the platform development, the type of excitement and hype around the metaverse is in part because of the work you're doing. Let's hear from you on what's going on there. And what is sandboxed why should we care? And how does the average person in the Caribbean get access to your platform? And what should they do next?

## **Sébastien Borget**

So sandbox it's essentially these gaming virtual worlds where creators and players can earn a revenue from the free asset and free experiment they make through the use of NFT's and blockchain technology. We've been a long term player in in one of the pioneers in blockchain and we have 10 years of experience in gaming before so really catering to what users are at content. And we also work to bring on some of the world's largest brands onto our platform to reach out to over 1 billion people behind through them by including IP and like, I want the Walking Dead Carebear Smurf music artists like Snoop Dogg like thenmala Steve Aukey brands like Adidas, and more recently announced Warner Music Group typically. So also putting an emphasis I was like how gaming can can we can start with gaming but how we can reach beyond intellect broader entertainment and cultural diversity through gaming. So far to date, some books counts more than nine about 19,000 unique landowners about 2 million registered wallets and it keeps growing rapidly. And we're definitely seeing like 2022 As the year on our roadmap for enabling land owner to publish your experience and really kicking off the whole open metaverse for for everyone.

## **Gabriel Abed**

Amazing, and hopefully, some of us get to buy some land next to Snoop Dogg as I understand he is one of your landowners. It's very interesting. Fresh you know you you've you've built a platform that you yourself have said brings brings the reality of the world to that to that virtual experience and, and you're no stranger to the Caribbean. You've touched on it. You worked with the disaster recovery agency, and you've put out an amazing NFT of which I bought one to support the disaster recovery efforts. But why don't you tell us a little bit more about Superworld and what you guys are doing?

## **Hrish Lotlikan**

Yeah, thanks again. And thanks again for having us and it's a pleasure to be here with your audience. You know, I think what really inspired you know, our team and myself to to build Superworld and what our mission is, is our mission is focused on how do we enhance people's real lives. And you know, how do we leverage these technologies, AR VR blockchain AI, to again, collectively build a better world. How do we, again collectively take all these activities and do something very positive for the world? I think it's a it's a good time for that. So, you know, I again, think that that is our, our mission. It's super world. And so what super world is, is a virtual world mapped on top of the real world. So everything in Super world is around us. We're in it right now. So you know, again, you know, you have a world I have a world the government of Barbados has a world brands have worlds. These are all filters on the real world. So the first way I describe that is I use an example of Pokemon Go, which is that game where you run around and look for digital information.

And that's,, again, an analogy, but what we're saying is that anyone has the ability to create anything on the data side, what we want to do is again, use that collective data to empower people. So you can we call it live to earn you know, little bit play on the plate earn, which is an amazing thing that's really been an innovation in the market. But we call it live to earn how do we take these tokenomics mechanisms and apply them to real life activities and people's passions? And then how do we also do that to benefit the world? Things like we're doing with the World Bank and the Caribbean Disaster Management Association, planting trees around the world, there's a lot of things that we can do. They're very beneficial. And then the third part of super world is monopoly. That's the analogy we've divided the surface of the Earth into 64 billion plots of land each plot is a unique digital asset. It's an NF T. And if you buy a plot of land, you become a key stakeholder on the platform. So anyone in the world can become a key stakeholder, by owning land and super world and then creating anywhere, but you know, it's important to be emphasized, you don't have to own land you don't have to, you know, you know, come into Superbowl that way, you can create content, you can create NF T's, you know, and you know, in the future you'll be able to create Dows or launching a token. So what we want to do at soup world again, is bring all these technologies to people's real life, and the things that they're concerned with in their real life. And so for that, you know, I think a lot of people say we could be served as a gateway to the metaverse, gateway to other virtual worlds, a gateway to other platforms. And that's kind of what we're trying to do in terms of our differentiation in the market is really again, focus on the real life in the real world.

### **Gabriel Abed**

Okay, well, thank you for that. And you guys are doing some awesome stuff. And you know, I'm so grateful that two superstars from the metaverse space were able to come today and I have a million more questions that I would love to ask you for the benefit of the audience. How do you buy virtual land? Why should you buy virtual land? What is virtual land? And there's there's a million more questions to go with that but unfortunately, we don't have we don't have the luxury of an all day session. So with that being said, I'm going to pass it to Michelle, from the CTU to bring up some questions from our audience. And I'm hoping you gentlemen would oblige and answer those questions. Michelle, over to you.

### **Michelle Garcia**

Abed, thank you to our speakers. And, as you said, Ambassador, there are a million questions. Our participants are flooding the q&a panel. And you know, you mentioned something you said that starting is the first step. And it's not it's really early to start at this point to start opening

metaverse. So our next question is about starting How do you start and whether \$10,000 You will get us of course, whether you can buy an opportunity in the start up 10,000 US dollars

### **Sébastien Borget**

so I think like there's many ways to start to interact and engage with the metaverse and there is a misconception that you can only access it if you own land. That's actually not true. You can start engaging with the metaverse without making any single purchase without any requirement other than your time and your skills. For example, you can start downloading for free all the creation tools like tools to create free assets in Sandbox carboxylate or the game maker that is no code and you can build experiences and leverage your skills shock them across social networks Twitter discord, engage with the community until people will want to hire you to build it for their own land for example, and through the actual revenue you'll generate from providing your services you can then decide to acquire land or buy asset or just get it back to us yet or any other cryptocurrency for other purposes. Here's just one example. But we've seen that as one of the main entry point in our community there are ways to engage just as play to earn being present during events during Alpha season and so on. Just there is 16664 lands and that sit in Sandbox with a very small number. Ultimately if we compare it to like, human population, so it's not every human is meant to own land into the metaverse. However, I believe there is an opportunity for every human to build in it, to engage with it to spend time with it to live part of his life in it.

### **Hrish Lotlikan**

Sure, yeah, I totally agree with that, you know, again, especially you know, how we think of super world as well. You know, there's no requirement to buy land, those that understand what our vision is, you know, we want to make sure that land is accessible. So, you know, there's about 64 billion plots of land each one unpurchased is point one ether so that you know, \$250 If someone does want to do that, however, you know, again, everything is free. You can utilize your mobile phone and add content straight from your camera roll, photos, videos, audio, you can upload three objects, you know, our goal on the NFT side, again, you can you can create NF TS that's free to do as well. We're looking on doing other integrations with Selena and polygon, which are ways that you know, buyers can also avoid high gas charges. So again, we want to try to make this as seamless as possible in a variety of ways. You know, I'd say the other really important thing is, as the technology evolves, there's going to be more ways to get involved. I think what you know, DeFi is a very interesting area that a lot of you know, people that have been in crypto for a while have now really been engaged with. I think there's a lot of new crypto people that would be very interested in accessing the financial markets, utilizing decentralized finance, I think Tao structures, you know, coming together as communities, utilizing blockchain to do that and raise capital or other structures that people can utilize to get involved. As this technology involved evolves even



more. I'm excited because I think accessibility is our goal. And we want to make sure that this is an inclusive, you know, metaverse, you know, that's that's what we're focused on for everyone. And so I'm very accessible. So if people want to ask me, you know, how to get involved, I met CEO at super old app.com would love to talk to you if you have ideas, we'd love the Caribbean and, you know, very, very open to citizens and partners that want to get involved here.

### **Gabriel Abed**

Michelle, I do want to give a brief perspective on that because I do realize that a lot of persons are concerned that the metaverse is this garden wall where you have to play pay to play and I do have to express that the only thing you need as Hrish noted is your time and your skills. Once you have a device, a computer, a smartphone, whatever you're watching this very presentation on you can utilize it to access these worlds and participate as a character in them and start offering some level of service once you feel you have a grasp of that. And you yourself can actually start earning revenue as a participant in this new world. So it's not necessary that there's a need for investment and and I would probably I would probably advise those listening to not do that. Until they have understood they have learned they have played around. They have figured their way out. That's that's probably the last thing I would do. I would start the Learning campaign first, but back over to the show.

### **Michelle Garcia**

Thank you for untying that Gordian knot, Ambassador. So my next question, when talking about NFT we constantly hear the term ownership. The fact that the space is not regulated. There's no proof that you own an NFT as legally there's nothing there to support or there are legal contracts are just as good and in fact better since they're heavily regulated?

### **Sébastien Borget**

I would say like these are two different perspective, like we call smart contract over a blockchain because they can be actually executed directly by code. By technology, which is the in my opinion, the best way to ensure like a contract provided over something is actually being delivered in the fastest and smoothest manner. So just like legal and law doesn't work at the same speed as technology. So when you make a purchase, you actually effectively receive in return a token that actually sit on this blockchain and that already in its code, and they did that you typically own that asset and what kind of rights and permission level you can do with those tokens. So from a high level perspective, the ballpark of like the most common use cases needed by users and business is already set in the blockchain. And it doesn't require a lot of human time talk lawyer fees, consultation, etc. to diverge and study likes exception and older case study. So I think it's definitely providing a greater level of simplification and accessibility to broader audience through that to

define like, what can be permitted to be done or not through the use of those tokenized digital assets. And smart contract can register and regulate much more than actually just digital asset ownership behind again define like how they can be used on a certain application and platform. How they can be maybe like gearing toward also the finance system or decentralized system like how you can fractionalize them, run them on a revenue loan, take a loan against them, for example, and many other use cases that are being built, leveraging those those assets and the technology.

### **Hrish Lotlikan**

Should I answer? Yeah, you know, I, you know, again, I think just totally agree with with everything that Sebastian said very well said, you know, I would say on a high level here. You know, I think the promise of NFT's is the ability to again have that authenticity, the ownership, being able to again, have an ROI, a return for all the time spent in virtual worlds, in platforms. And to have that very direct, you know, you know, DTC Direct to Consumer Direct to customer type relationship. So you can go again, whether you're making music or art, you don't have to deal with centralized platforms, you can have a greater share of the revenue that you're creating, and you can have a very direct relationship with your followers. And fans and, and your customers. And I think that is the the benefit of utilizing these structures. And as smart contracts and the technology improves, we're going to see how that relationship evolves. And we've seen it already. I've mentioned a few of these different structures, but I think those are all going to come into play to really empower and benefit creators of all types.

### **Michelle Garcia**

Do you want to jump in? No. Shall I go and move on to the next question?

### **Gabriel Abed**

Please? Next question. I would only say that the you know the difference between a legal contract and a smart contract on the blockchain is in one aspect, you're trusting law. And the other aspect. You're you're trusting code. One is mathematically proved and the other one's upheld by an economy's legal system, and both serve a purpose. And the key thing about NF T's is that when you're buying the production of an artist, it's it's being validated as the real McCoy, and the blockchain assists with that. So if you if you don't trust the word generated by the artists, then it's it's obviously something where it starts to question the authenticity. of the work. But please move on, Michelle.

**Michelle Garcia**

Clarification and until the next question, however, the issue of interoperability standards for different mental illnesses connected to each other without it?

**Hrish Lotlikan**

I can go um, you know, I think that as the technology again evolved, we're looking at you know, a variety of bridges, ways that you know, NF T's which is again the core of of you know, the fundamental building block of, I think, you know, how we're gonna see these virtual worlds really come together. Again, the example was given earlier, that if you own an NF t, in one virtual world, let's say on Ethereum, you're going to be able to you know, again, have the ability to transport that across other virtual worlds. And if you're talking about other you know, protocols like SWANA, other layer two type solutions, like polygon and others out there in the market, you know, all of these these improvements in the technology are enabling a variety of things, whether increasing the seamlessness of transactions by lowering friction, like gas costs, or improving processing speeds. You know, this, this technology is evolving and you know, interoperability is coming very fast. And so we have, you know, again, a lot of reasons why we want to add value to customers, our customers who, again, want to utilize a variety of virtual worlds out there want to utilize a lot of platforms, and want to be able to take the assets that they're building, to and from all of these worlds. And so this is a, you know, the interoperability challenges that we're currently facing, can be, you know, I think equated to when we used to have to dial up to the Internet, right back in the in the mid 90s. Which, again, we solve that fairly quickly and, you know, with with a lot of the investment going into these solutions, I would say we're not very far off from that becoming a reality. And we're very excited about that, because that's what customers want. And that's when you're going to see a lot of adoption here, where if you're building in web two, and you don't have that interoperability, you're not able to again as a customer as a as a community member, get the true value of all the work that you're putting in.

**Michelle Garcia**

You wish. We had a question from Nigel Cassimire? Nigel, are you there?

**Nigel Cassimire**

Yes, I'm here. If you can hear me.

**Michelle Garcia**

Yes, we can.

### **Nigel Cassimire**

How do you actually just bind into via to draw your attention to that same question that you just saw somebody interoperability, and maybe I'll add a little nuance to it. And ask, is there any infrastructure institutions that is that are forming or evolving to deal specifically with this issue of interoperability because you have a lot of plans. What brings them together? Is there any infrastructure that's evolving to ensure that we have interoperability going forward?

### **Michelle Garcia**

Thank you

### **Nigel Cassimire**

I guess that was a question

### **Hrish Lotlikan**

Yeah, well, I can touch I didn't I didn't know I give you my thoughts on it. You know, I think that you know, for one, you know Sebastian, I you know, dark from Upland. You know, others are, you know, coming together. There's a number of again, players in this market that really want this to want this to happen. Animoca has is a really great example of this. They're, they're very supportive of the overall you know, market and ecosystem, I think yet is a great promoter of what what everyone here in the market is doing, and I think for us, you know, collectively, formally and informally, we're coming together to talk about these issues. So how we can work together to integrate to, again, provide mechanisms in on the technology side within our virtual worlds, to bring the ability for our customers and each one of these worlds to come together. And we're doing it I mean, even it's super old right now, we you know, we've done partnership with super rare, which is another NFT marketplace. They added their NF TS into super world at our miami miami art week, about two months ago put NF T's in real world environments. And so there are workarounds right now. Even before this becomes totally seamless. And so I would say, you know, it's, it's, it's the fact that the leaders and founders and, you know, the communities that are coming together are really in support of this. That we're really also coming together to figure out what the solutions are. So, informally. I'm very excited about how these organizations and leaders in the space are working together.

### **Sébastien Borget**

I think I liked what they said like on the more a practical perspective, it's true, like, interoperability is a possibility, but it requires certain a force to be actually deployed. Like it's not because an asset can be utilized across different application but it doesn't mean immediate utility across any application. So that means that there needs to be a balance of incentive between like, should I as

an application developer, platform or service provider, provide enough provide a utility for that asset on my platform? And if so, why would I do that? main answer usually is I will do that because I want to attract the users who own the law set onto my platform, so it becomes a new perspective into user acquisition. Doing user acquisition through content production in Melbourne is more valuable than doing user acquisition by sending it on to like, platforms advertising platform, in the traditional web 2.0. It's also a way to support creativity because you have more freedom to add, like, who gets to decide if you can add like content and utility over asset to becoming more probable it doesn't need to be only the the web three platform operator it can do communities. One concrete example is me beats is a collection of 3G characters that was launched by the same team as crypto punks, one of the most popular energy collections, and maybe they add like this, maybe to DAO which came as like a community organized governance structure as a as a dowel that started to work and implement maybe its character to become available and why they are doing that is because they believe the mibbit should be by accessible broadly in a broad manner. So it's also shifting, interoperability shifting the decision power and the workforce requirement from one single actor to multiple and I think it's essentially also the essence of like web three, like doing things in decentralized manner. Distributing the workload, distributing the revenue, distributing the value is reaching the decision across all the actors who want to take part in those projects.

### **Rodney Taylor**

All right, allow me please, just just follow along from Nigel's question and we just have about five minutes left for this very interesting and engaging discussion, and then we have to move to round two. But I think, you know, from where we sit, we advise governments and so on, you know, within the global structure for telecommunications, there's the International Telecommunications Union for the Internet. There's the Internet Corporation for Assigned Names and Numbers. There's the IETF, Internet Engineering Task Force, run by society, that is global structures that, you know, set standards, advice and policy and so for governments, and this new metaphors, and I think it's sort of related to what Nigel was asking do you see the need for this sort of global governance structure? Or would you rather US government step back from this global sort of regulation standards policies, allow the technology to evolve? And then we can you know, put this global regulatory framework in place?

### **Hrish Lotlikan**

You know, I think that regulation in some ways, can help people feel more more safety in terms of engaging with with certain assets like NF TS or with with crypto in general. And but at the same time, you know, it, it definitely needs to be done in a way that promotes innovation. That, you know, in enhances the ability for entrepreneurs and founders to create solutions to problems. You

know, I think that, you know, all of us in the space, the communities that are so excited about this, you know, first and foremost are interested in improving the world and and, you know, providing better opportunities, whether it's an entertainment or education or, you know, in terms of accessibility communication. There's a lot of things that I think we're all excited about. And, and so I think that doing it in a way that really fosters the creativity and fosters the ability for founders to to build and continue to build. You know, I think it's very important. I would say that there are certain frameworks and benefits of having structures in place that allows us to operate in ways that can enable us to build in a more, I would say, you know, in a way that allows us to really utilize all of the resources available to us, whether that's investment capital, whether that's bringing together people in communities because there's that trust. And so I think it goes hand in hand. I think, you know, I'm a big believer in stakeholder capitalism. Where we all have to work together governments, not for profits, you know, private corporations, communities. I think we all make it happen. And so I'm in favor of doing that in a very balanced way.

### **Rodney Taylor**

Great, thanks. We're really short on time now, and it's been very engaging, but I'm going to ask Ambassador Abed just to give a few closing comments. So we can kind of change gears a bit and look at some other sort of issues, the opportunities, challenges or risks around this metaverse, but moving away from the tech side to look at sort of almost like the economic opportunity.

### **Gabriel Abed**

Well, I think today's session really touched on a lot of the high level concepts of what the metaverse is and, and what the the key drivers behind it such as blockchain technology, non fungible tokens. And we heard from two of the leading platforms in the industry why this stuff matters and the reality is for a Caribbean audience, you know, the jury is still out whether the metaverse is going to truly be the future pacified from what we can see right now. There's evidently a lot of economic activity, a lot of opportunities happening. It's clearly becoming something that we need to pay attention to. And it's very important that the key principle of education is taken home by everyone listening right now, to understand what this is and to get involved in some aspect why while basically just exploring because this does very well present, a new position for people in the region to find work, to find opportunities to become the next generation of business leaders to build the next generation of platforms or even offerings on the very same platforms we heard from today. So if that being said, thank you to our panelists for joining us. We enjoyed thoroughly hearing from each of you. And thank you Michelle, and Rodney, for for hosting us.

### **Sébastien Borget**

Thank you. Thank you, everyone. It's been a great conversation and hopefully brought some interest in the space and hopefully future vocation and more jobs.

### **Michelle Garcia**

Thank you to bringing clarity to joining the metaverse. Thank you for this session. We now proceed to the to the economic opportunities and risks of the metaverse this the man at the master said the metaverse provides economic opportunity. So we will examine the economic, social and cultural opportunities for different stakeholders including government and the private sector. So I now introduce Vladimir Radunovic who's the director of E the privacy and cybersecurity programs, Diplo foundation in Geneva, and he was speaking on funneling metaverse policy changes. Vladimir Radunovic are you there with us?

### **Vladimir Radunovic**

Yes, thank you, Michelle. I hope we get here hear me that's the usual Greetings. I hope you can hear me. I hope you can see me. And it's a pity I'm not a video somewhere in the Caribbean currently. First of all, congratulations definitely for this to the CTU for initializing this discussion. I've already enjoyed discussing what metaverse is or could be in a first session and maybe as a as a small provocation on whether we have one metaverse or more question is, would you use a capital M or a small amp? When you talk about metaverse let it stay open. Rodney already got me at the very beginning of his introduction with the suggestion of working from the Caribbean beaches with local people without snow. I come from the part of the world where actually Snow was around just few days ago in in Belgrade in Serbia. Not that I don't like snow but I would like to fly into into Caribbean the very second. I remember of that generation of the second life which was mentioned before. When we deploy we actually have the diplomacy island over there with the Museum of diplomacy and the first virtual embassy or the first I don't know whether we could have called it metaverse. But let's say a second life embassy was actually the Maldives with again with the beach and Simon sense. So there is something in this in this environment.

Now, I know that this session and particularly the upcoming panel will address a lot of opportunities when it comes to metaverse and there'll be many, many discussions about that. What it can bring, but often we don't observe the societal challenges if you wish, you know the new technologies we usually see the problems when they appear we don't necessarily look ahead and at the same time it's the same with digitalization, we usually think about security, privacy, all of these questions. Once we've done the digitalization and the policy actually needs to follow innovation hand in hand. Those are the two sides of the same coin. So allow me to play a little bit of a dark side if you wish for the next 10, 15 minutes. By no means discouraging innovation and

metaverse, but doing it in a way that society and humanity can think in advance of what the impacts and social impact of new technologies could be so that we approach this innovation in a smart way. Now why am I cautious? Person first of all metaverse and you already started with that. It is built on a technology which we now know is Internet, which is already full of societal problems.

Again, it is amazing technology. We've never ever had anything like that history, but we seem to be missing how we should be using it today. More for the education less for this information and stuff. So we're already building a new technology on the basics of something which is humanity wise, society wise, quite shaky grounds. If we look under the bonnet of the of the metallics if we open the bonnet, what we see is first of all the Internet that is existing technology, again, whether it's small, light or capitalized. So the Internet where we have the telecommunications as underground. We have the servers and the content and all that are protocols. And then we have the social networks as a background. All of them have a lot of open internal governance, digital policy questions, societal questions, which will still have the grappling with but on top of that, and there was a lot of discussion in the previous panel, which I think is the key of this discussion about metaverse, which visually see, you know, as as a 3d world, but it's much more than that, as your previous speaker said. So you have a bunch of technologies which are going to be your concepts which are going to be used there.

Augmented Reality Virtual Reality brings a lot of questions. On mentioned some when it comes to the impact on society and policy questions, biotechnology with haptic feelings with neural connections brain to computer interfaces, integrated augmented reality to lenses and so on. Artificial intelligence which will definitely helping out the modernization of the virtual environments, quantum computing to allow the faster processing power, 5G Six G seven G whatever satellites for bandwidth for connectivity, web three zero which was very well mentioned when it comes to crypto assets. Decentralized finance is generally decentralized approach. There is a number of questions we have to respond to why we innovate rather than after and it grows exponentially. And attacking governments and communities should actually sit down now. And I like what what Chris mentioned the stakeholder capitalism wherever we put it, but basically working together already to address the challenges that can emerge once we run the technology. So in this part, I want to open this Pandora's box of questions and really just scratch the surface provoke you if you wish, on some of the questions we'll need to address in the future.

Maybe that's a suggestion for the CTU. To actually organize a series of discussions on each of those blocks of questions that we disentangle it further established infrastructure. So we mentioned the bandwidth than the 6G 7G whatever we'll need for that standards. There was a lot



of discussion about standards already. I think the key question that was raised by Nigel and Rodney before is where the standards are going to be set. Now, there was a competition with the early days of the Internet where actually the standards somehow came up. It was the economic markets take up on the standards. today. We have a huge geopolitical battle around standards and you can see we follow the ITU ICANN wherever you move, there's more and more geopolitical pressure. It's not going to be like in the early days of the Internet, so I'm not sure we can actually avoid governments being there. I don't know whether we should have them or not. But that's that's a reality. So this is a really important question.

The next question is centralized or decentralized, no matter how much we might want to push for decentralized, and obviously, not all the companies might want that. And there's a huge question of servers and hosting, and whether the centralized is actually centralized, or just the app level which is decentralized. And actually the infrastructures to centralize some servers by some, some companies, the questions about data localization, so there anything that states are increasing demands for serenity over data. The question is the data is not just personal data. It's also data about the environment. Let's say that the virtual apartment that I mean, the birds that are singing around, you know who's out the birds, so it's gonna be very interesting. Then if you look at development, which is particularly important for for the Caribbean, it is not about the VR headsets. metaverse is as you discuss much more than that. And the good question that I want to provoke is whether there is a playing field, whether that playing field has been leveled, actually, between the developed and developing countries. I'm not so sure, necessarily. Because the question is, if we and I come from developing countries, well, if we want to be followers and consumers, that's fine. And we are on equal footing but if we want to be trendsetters and creators, then there is much more that we need to do in order to enable us and you mentioned, education, capacity building, definitely, that's something that we need to have if we want to really be have that liquid equal level playing field, right. Let's move to market and economy.

One question is of the monopoly and antitrust. Now we see a lot of problems when it comes to social media and platforms today, and the antitrust suit lawsuits around the world. And if metaverse is going to be built on the same basis, then we might have the same or even even bigger problem that we currently have. So that's a big question to ask. Then the regulatory questions in the new era, like how do you regulate and do you the blockchain and FTS from taxes to ownership? Money laundering, labor laws, what is labor in virtual world, right? How do you actually add value in so let's move to identity questions and identity will be the key I guess, as a new mentioned already, the point is that you have your avatar your identity, which you can shift back and forth. To the metaverse components if you wish and the NVIDIA CEO mentioned that avatar belongs to you and is you.

Now how do you prove your own identity? Does it mean there will be no one on limited because you have to register every time you link your real identity with with with space this huge debate in cyberspace Currently, we are going to take it over to metaverse even more. How about the AI? There'll be a lot of AI which is intervening interacting with you in the metaverse. Do we know whether we are speaking to a human do we need to use Turing tests and CAPTCHA codes every time? Can we trust who's behind that? That the avatar right now who's responsible for misdeeds by their avatar company, a person AI and so let's move on intellectual property. The design is the key in the new world, right? There'll be more and more about the design and intellectual property so there are a lot of questions about the the intellectual property rights, and also about the AI creations.

How do we deal with AI creations in the world? Security and again, scratching the surface around somewhere where we have concerns of locking our self driving cars just imagine locking the entire virtual reality reality where we are actually doing businesses living having families, whatever, altering the reality, and that is the huge, huge question, you know about deep fake right? And is when someone artificially changes the video that it looks like I'm speaking now just imagine in augmented reality or virtual reality world when someone starts hacking, or doing fakes, right of the identities and by the way, for those of you that have not watched you can watch the Hollywood blockbuster, but it's a really good blot on like anonymous anon when this happens, just as an idea, right? Then the harassment and violence in the in the metaverse against the avatars, how do you treat it? What is the legal effect of violence against an avatar? Is it the same or not?

Warfare? I'm not going to even go into that we have many open questions about how international law applies to cyberspace. What is on that dark, how can a state respond to an arm attack? Or is armament? How do we attribute attacks? Now imagine that in metals? Well, I hope it's going to end up as a game of shooting instead of shooting in the middle world. But that's that would be good. I'm not so confident. Then a bunch of questions about human rights, particularly content policy, where content again is not going to be just, you know what you write or a video that you have, but it's also again, the virtual houses, the birds, the NFT is the tokens, all of that is content. Now, content policy in control of the people content moderation, whether as a censorship political censorship, or towards combating terrorism or crime, it's going to be a huge privacy.

Similarly, it's not going to be only about our personal data that we used to have now we're going to have biometric location data because location virtual world is going to be much easier to spot where you are everyday habits if you spend more and more time in this virtual home or whatever. Privacy is gonna be huge issue. Safety and Health, addiction, psychological effects of, of being in

the virtual world where time flies faster than then then in reality, and then geopolitics. You already have huge competition between the big parties like the US and China metaverse for services, Tencent on the metaverse, Tencent and so on other countries, not least Caribbean jumping into trying playing with the metaverse like Barbados. First metaverse embassy and then we have Siouxlant Shangai, in the metaverse and so on. A lot of questions about governance. So what is the role of the States compared to the big technology will big technology again, be dominant, and even become bigger than what we have now or it can actually change if we get to some sort of a decentralized world?

You mentioned governance to code smart contracts that this difference or interplay between code and the law now who sets the code? It's again the humans right? For the AI which is fed in by the humans. How far can we go towards the governance by code? Do we want it and I must have mentioned that? So that's really a crucial question. And then finally, I think this is a very important part which will become more and more relevant, is the question of humanity, and philosophy if you wish. So as we have digital and human embodiment more together, we'll have questions like ethics, theology, anthropology, how can one be present simultaneously in various spaces? That's already a problem in the zoom, but it might be less of a problem methods, ethical questions about AI about biotechnology about connecting our brains together, which will come in 2030 years, it doesn't matter.

Then what is our real identity as a person you know, which identity philosophically I have, then if I have multiplicity of identities and worlds, and what is the value added to humanity by each one of us? What is our role? If we just sit and create something, what do we create a lot of questions, and I'll wrap it up here with the I hope I didn't scare too much. There is a risk that race someone raised that we might end up in a matrix we could possibly do so, but I guess we won't. It really depends as karate would say this is one option, but it really depends on whether we start thinking about the society and policy already. At the same time, while we while we innovate. And we in deplorable definitely covered this metaverse and interplay with digital policy more prominently, both the training programs and the digital watch observatory. I'll share the link later on. And I hope for for even more interesting cooperation with the CTU in future I'll shut up now back to you. And looking forward to great discussions.

### **Rodney Taylor**

Thank you. Thank you. As always, you know, thanks for that global perspective. I hope you can stick around for a little bit. Because very much what you presented is linked to the opportunities, opportunities, sometimes overstated. Risk and challenges are real, but I think opportunities are also real messy. And on that note, I really want to thank you for your presentation and hope you

can stick around for the q&a. But what we shall now to introduce the next moderator and the next panel.

### **Michelle Garcia**

We now proceed to a panel discussion moderated by Dr. Annalee Babb a well known ICT consultant in the region from Barbados. She will be joined by Mr. Lester Garcia with music. He is the head of connectivity policy at the Latin and Latin America for Mehta. You also have Professor Avinash Persaud, who is the chairman of the CARICOM commission on the economy. Finally, Mr. Alan Emtage, computer science from Barbados. Mr. Emtage is the creator of the first Internet search engine so all panelists, panelists, we welcome you today to our session.

### **Annalee Babb**

Thank you so much, Michelle, for having me. Yeah, Rodney, thank you. Thanks to the CTU for having us all. I think my job today is very simple because I'm just keeping our wonderful panelists to time I believe. But before we begin, I'd like to congratulate the government of Barbados in particular and the CTU for this excellent, excellent set of presentations, and workshop and if I could just share my screen for one moment.

When I was listening to Vladimir, he did a wonderful job of synopsis sizing all of the different elements and issues that we might want to deal with in respect to this emerging technology and these, this universe called metaverse, and I went back to my PhD dissertation, where I talked about a six layered access model. And there are issues related to physical access the infrastructure layer to financial at Quick Access, which speaks to equity. Two basic access I call it which is about the skills, secure access the safety layer, and policy access. How are we going to regulate all of these different areas and again [name] gave a wonderful synopsis of the issues involved with that. And then ultimately, your content layer your local innovation, knowledge and content creation. And I think these things are very important. I look forward to the panelists on in this session, discussing some of these issues, because as I listened to our first session, in particular, it came through to me that if the metaverse evolves as we think it might evolve, their real implications for government, citizens inclusion, equity, but also issues related to national security.

Because what we are essentially doing is creating new worlds How do governments become involved? How do they manage their citizens and so on? So I look forward to this conversation very much. And I would like to ask our very first panelists, I'd like to begin with Mr. Lester Garcia. And please feel free to go to the Hubilo platform and go to the Hubilo platform to get the bios of all of our participants and our panelists and so on, so I won't take time to read through, but I just invite

Mr. Lester Garcia to begin his own talk or presentation and please, gentlemen, we'll keep it to 15 minutes, and then we want to leave some time for questions and answers. Lester, please.

**Lester Garcia**

Sure. Thank you very much. First of all, thanks to the CTU and the Barbados government for putting this together. I think it's a great, great event and great opportunity to continue the discussions that have been rising around the globe on these metaverse in in just the last the last few months, however, as you have been discussed and as we know we've been building this for quite some time transcending from from the current Internet to the next generation to Internet three point or the metaverse or whatever we want to call it. But this new generation of interactions and connectivity that we will face with the metaverse let me start by sharing my presentation and try to be as fast as possible as as I know that we have limited time.

**Lester Garcia**

Can you can you see my screen?

**Rodney Taylor**

Yes.

**Lester Garcia**

Thank you very much.

**Lester Garcia**

So yeah, so let me start as you know, meta announced a couple of months ago, our CEO, and Mark Zuckerberg announced the company focusing now on building these metaverse. And first of all, as I just mentioned, hour ago, the metaverse for us is the new Internet, new new generation of Internet and just as the Internet is open, free and built by all of us. That's what we're envisioning for the metaverse a discussion like this one or discussions like this one, where we think discuss and and present our proposals and our views of what we want this virtual place to be or this place to be. And I've and I think this this will certainly enrich, where the way and the place where we will arrive after once the sequence this is built once we get there. So the metaverse is connecting these three worlds the physical world that we are in now of course, with a layer let's say that we have further information for our physical world that can be accessible by two different devices for for individuals for people for instance here if we see these people traveling through the road the physical world of course is the road per se. Augmented reality would be in their shields child screens of the cars in their on their cell phones etc having this additional information that can be

of use for for them in the in their trips, and virtual reality of course, being in a total different immersive world. However connected and related to the other two.

So, as I mentioned our CEO discussed about this and focus the company on on having this path towards the metaverse and what he said for us regarding that particular brain place, it's a hybrid between social platforms that we see today, but an environment with immersion where people will be able to to interact in a more present way this distance and the and the individuality. So I think that is very important. I think it's part of the discussion as well. It's we are seeing this as a world or a new Internet accessible through different computing platforms of course AR VR devices we were discussing but also mobile PCs, game consoles. Perhaps we are not seeing yet all the platforms, all the devices that will be available to access the metaverse permit. So in meta we have been working on that and this is let's say our first generation of devices focused on on the metaverse devices and platforms. The Aural is it's a device for communication. It was actually very much used and demanded during this pandemic situation. It says more divided gives extra immersion to a camera digital intelligence camera that follows the speaker and that regard makes the people in the conversation feel more close quest you will know is the AR VR. Quest 2 is actually the new AR VR device from Mehta, and it's our first step into virtual reality. There are already application services being offered through quest. Spark AR is so our augmented reality platform. We are pushing very much creators and people that were under work to spark AR to start building the software and the applications of the of the metaverse and of the new Internet and our newest product, the smart glasses, Ray Ban stories which were are offered together with Ray Ban as a first step in augmented reality glasses or devices to today's just uh, these glasses can provide, taking pictures, taking videos and connecting with with social directly with social platforms, social networks, but this is just the start.

And in that regard. Just just to give you an example, two years ago, you needed all of this to use AR VR, particular virtual reality. You needed your computer a couple of cameras, the these joysticks or or, or devices to move through and of course the the goggles today sorry. Today as you know, quest. It's only

Oh, I'm sorry. You only need the -- now yeah, sorry.

Today you'll need goggles without any type of, of wires wirelessly connected to the Internet and offering access to the services. And it's not only of course Quest 2 but other devices as well. I mean the technology is evolving and we're getting there really fast. And as you know what a few have been discussing VR is not only about gaming there are a lot of applications utilities. As of today, people are draining. People are offering university courses, developing applications for

health, business etc. That will reduce costs that will permit this avoiding high paying high creeps etc for people to be able to interact in business, education, health, and of course entertainment. So then metaverse is the next generation Internet. It's a place where will enable creating creators to deliver a full connected and immersive experience. We're working to get there. And we think these discussions are important to have as you have been discussing the rules the interactions and of course the discussions that will help us get there in a way where everybody is included and is part of it. Well, we think it will be of course Mehta wants to push through developing the technical and connectivity environment of the of the metaverse but as well we want to build together with with a with a with society, with authorities with other companies. What would be the future would be in the metaverse, we need to develop the standards. And here I'm well let me let me go forward. We need to develop standards. Of course. We need Industry Collaboration. It's not just a work of a one single company. We need these conversations to have the the issues that we need to include and the concerns. Just as we have been discussing there are a lot of technical policy, business, social concerns, and of course we need investments.

Meta will be investing in the following years \$50 billion globally just in research, to have these discussions and to set this to get to this to the sensors will also be creating or we will be financing creator funds to the bulk of these these tools and end applications. But more than that we have a policy focus for the metaverse and policy concerns that need to be discussed and need to be settled. We need to get there to these discussions and the four pillars of policy focus area for us our economic opportunity and interoperability of course, we need this to work technically standards, the appropriate technical structures and decisions safety and integrity as it has been mentioned before equity and inclusion and of course privacy which is very much important for the company as it is today. This will be certainly something to pay attention to in the metaverse but before that, and it's something that I just saw Dr. Babb, in your in your in your scale. That is very important. Actually. You put it at first step if we want to get there if we want to build a metaverse especially for our developing countries, we have to think also on the infrastructure part. We need to build a networks that will be capable of having delivering this this amount of information this amount of of data. And in meta in particular here in the region. We have been discussing very much these truly needed coexistence of 5G networks and Wi Fi states in order to present to this from this physical world to virtual reality and augmented reality. I'm gonna go forward.

So for AR VR devices, to be operational and to be physically appropriate for human beings we need speeds that will help the brain understand that we are in it is in this particular situation and not affect physically with delays and things like that. And these speeds and these technical conditions will only be met through the appropriate technical conditions and the appropriate technical standards. We need a low latencies we need high speeds in order to get that the

technical conditions again the infrastructure and the spectrum conditions are very important for these technologies to develop. So if 5G will benefit largely from high bandwidth that will only be available with new technologies. In the case of 4G LTE standard 4G LTE use case will be necessary for the interaction between these this equipment and the current mobile networks current mobile services. So even when we are discussing all of these very interesting and important social political policy and business implications of the metaverse, we also need to think in the first steps which are the technical and connectivity requirements and decisions in this particular moment.

The world is discussing about the 1200 megahertz band and we have seen a lot of progress on the adopted adoption of six gigahertz unlicensed spectrum, particularly in our region in region two or the Americas. This has been a very interesting progress. So I must I will say I can say the Americas are getting ready for the metaverse and one very important first step is to having the availability of this spectrum here in the CTU have been discussing also about these in the Spectrum Management Task Force. We think it's very relevant to take this into account whenever we are discussing about the metaverse because in the sense spectrum would be like like the the midwife for for for the metaverse, we needed technical decisions before reaching there. And once we are in the metaverse we can we should discuss and we should agree about about all other concerns. But for now, we could move to harmonize the toll markers band for on licensed here in the region and be able to enter the metaverse efficiently and with the technical conditions were required.

Thank you very much.

**Annalee Babb**

Excellent. Thank you so much, Lester. Professor Avinash Persaud we'll go to you next. Avi, you and I go back quite a ways. So it's lovely to see you. Virtually, if not in person in recent times. Please take the floor and share with us your perspectives particularly on some of the economic and political opportunities and risk etc. And in particular for small island developing states. Thanks, Avi.

**Avinash Persaud**

Thank you very much, Annalee. It's a great pleasure to be on a platform with you. And also I want to thank CTU for being very far sighted in trying to set this up and establish a dialogue with our people in the region on these new developments.

As you said, I'm going to give a economic policy perspective on the opportunities and the risks that you say and how governments are I think where I might say progressive governments are thinking



about the metaverse and how we engage with it. Let me begin with some uncomfortable thoughts about technology. Now, technology is very important to economic growth. Since the 1850s, where we have good data technology and technological change has contributed around one to 2% growth per year. The very inconvenient truth is that the Internet revolution, the computer revolution has not changed that at all. We have not grown faster because of the Internet. We're still plodding along at one to 2% growth per year. The Internet however, and technology and computer revolution and all technological revolutions have been associated with increasing inequality, with changing levels of wealth from one sector to another, and a concentration of wealth. We've seen the creation of a whole set of, of Internet billionaires and we've not really seen at the bottom level of the of the economic structure, a any lifting out of poverty. There has been intensification of inequality.

Technology on its own does not improve the conditions of humanity. It's partly how society responds. And we one of the goals of government is that we need to respond in a particular way that makes the technological revolution as progressive as empowering as possible for everybody. That's our task. I think the other thing to say is that so that's our starting point. When we think about technology is an important thing. We'd encourage innovation, but just having it doesn't change society for the better. So Arthur Lewis, the region's famous economist, the Nobel laureate, was famous for writing a paper on the the the unlimited supply of labor. And one of the one of the results of the Internet revolution is creating unlimited supply of labor, which reduces the power of labour. Now, if you're a taxi driver, everyone can compete with you. With Uber, now you are hotel everyone can compete with you with Airbnb. So these things are good for consumers. They're not necessarily good for producers. So we need to think about society need to think a lot about how we organize these things, to make sure that we all benefit.

And so one of the things we're observing is that the world is moving to a tremendous amount of trade and activity occurring. On a very small number of digital platforms to matter is one of them. But so is Google. So is apple. So as Microsoft, they're probably just a handful, five or six major digital platforms where the tremendous amount of economic activity is occurring, is trading is being sailed is being sold being purchased. And one of the things that we in government, from a government perspective and a public policy perspective are concerned about is that these are perhaps the new empires. How do we make sure we don't become the new subjects of these new empires? And I think one way would be if we ended up just thinking it's about being a consumer. Netflix is fantastic. We all have great access now. But if all we ended up doing is being consumers of this new world, we're going to end up being subjects of a new empire.

So the question is, how do we also enable small -- everybody, any person any citizen, including those from small islands, to become, have as much access to being producers on these major digital platforms? It's one of the reasons Annalee, as you know that in the recently fought his general election in Barbados. One of our manifesto commitments is something called [myeconomy.com](http://myeconomy.com). And I'm very proud to say I was part of developing an idea. And my [economy.com](http://economy.com) is to give every citizen in Barbados, a digital account, where we will give them a curated set of free, free tools to allow them to be producers of content on these new digital platforms because we need to improve that access.

So we are, I'd say when we think about the metaverse, we think that this is important. This is an innovation we're watching very closely, and we want to be engaged with it. We want to make sure we're engaged with it, to make sure that we can find ways in which our people will have great access to it. As not just consumers but as producers and that's one of the reasons why we established our embassy in the metaverse. We are doing that with our eyes wide open, being engaged, observing. It's our lookout post on this new economy. As I look out posts to see what's happening, how can we maximize opportunities for our people as producers and not just consumers? The second key perspective for us is that government of course, is is has a lot of, you might say customers, citizens, people we engage with and we are very good at that. The last mile is often a complication in business, and it is a complication in government. We have a range of things and services we offer people from welfare to support small businesses to tax and other other other things that you engage with government on and we engage very poorly we are very expensive in our engagement with people. When we engage with people, they're confused. They don't understand things fall through the cracks. And so we need to have a much more joined up way of engaging with people. And we think that metaverse and alternative realities may be a tool for that so we can engage with with all of our citizens together at one place in a multivariate way, and treat them as a whole person and those little bits of fragmented people on several different online websites. So that's another reason why we wish to engage with the metaverse. We think there's an opportunity there. We don't know for certain, but we think there's an opportunity there that we can take advantage of. And the final thing, I think it's important to say and I think the last session talked a bit about this.

The digital world has also changed geography. You know, one of the one of the interesting results in economic growth analysis is that one is impacted significantly by one's neighbors. So if you if you're growing up as a country in a bad region, that region with lots of problems with strife and civil war and those issues, it actually impacts you. If you happen to be in a region that is of great prosperity and growth. It impacts you. Digital allows us to change our geography and to choose our geography. I mean, that's amazing. We are working with the Kenyans on establishing a single

regulatory space between Barbados and Kenya. We've never thought about that before we were thought maybe going to do that with Trinidad or Guyana, our neighbors but not with Kenya. And nothing stopping us establishing single regulatory spaces with a range of countries where our physical geography is very different. So we can reinvent our geography.

We want CARICOM to be a member of the African Free Trade Union. So we think that we can and those things weren't really possible before. Without thinking of this digital space. So those are three reasons why we are looking at this space. We don't make policy perspective with our eyes wide open, wanting to engage, being very conscious that there's a lot of of technological sort of excitement. Entrepreneurs should be excited. They always are. And we need that zeal. That's what makes them entrepreneurs. But that zeal sometimes gives the appearance that technology is democratizing ownership of capital is creating a equal world. It's not it's creating a more concentrated world. And we have to find active ways in which we can leverage the new technologies to empower all of our people and to democratize it. We do believe that the great opportunities for that to happen, but we just have to do so. In an active way.

Thank you very much.

### **Annalee Babb**

Thanks so much Avi, excellent as always, you raise so many issues that I'm looking forward to having the audience ask some questions to tease out a few more issues in terms of what you have shared with us. I'd like now to introduce Mr. Alan Emtage. I don't think, sir, that we have ever had the pleasure to meet but I've been a fan of yours for many years. So I'm delighted to have you here with us today and I give the floor to you.

### **Alan Emtage**

Okay, well, thank you. Good morning, everybody. It's an honor to be invited to something like this. And I don't have a presentation but I have several thoughts that I'd like to share with you. The previous presentation, I think, by Mr. Vladimir Radunovic was really an amazing presentation laying out many of the incredibly complicated issues that will arise in the metaverse the the issues of the living in a virtual reality are complicated in some ways than building the real the real reality where we have, you know, centuries of, of precedent and an infrastructure to to build on this takes us in a whole new direction that we really don't have a good handle on I think, quite yet.

And I will say that one of the things I came in a little late so I'm not sure if it was mentioned before, but I would strongly recommend everybody read a novel, which is now 20 years old, called Snow Crash by Neal Stephenson. He was the one who actually invented the term metaverse in the first

place, and it's a prescient novel. I mean, it may be a little dated right now because he was writing at the beginning of the popularization of the Internet in the early 90s. But it really he foresaw a lot of these issues, particularly the issues around inequality and an equity and and people's access into the metaverse their ability to access the universe, the metaverse. I mean, most of many of us who are somewhat global citizens don't really think about what the challenges even now and you just in Barbados during the pandemic with, with all the kids, many of the schools online, most of the schools are night. That has been a huge challenge, just to be able for many children just to be able to to see their classes. You know, because of economic challenges and and connectivity challenges and so on and Barbados, this is a fairly small place, so, you know, scale that up to somewhere like India, and you start to see the the challenges that are really involved here.

One of the things that I would say in relation to the Caribbean is how are our primary sources of income and foreign exchange going to be affected by this new reality? What does tourism looked like when it when the metaverse is involved? For example, you know, tourism is the driver of economic activity in most of the Caribbean. And it's not clear at the moment, what effect that is going to have on our economies. I mean, you know, if you're if you're looking at 50 60 70% of your foreign exchange, coming from a tourism sector, how is that affected by people being able to visit your country in virtual reality right now, you may not be able to feel the sand between your toes or the sun on your face. But if you're if your desire for example, as many of my friends come down here for they don't they go lie on a beach but what they do really want to explore is the history of Barbados, right along rich history. 400 years of human of Western occupation at least. And they could they could quite easily visit the museum. St. Nicholas Abbey you know, the old the old plantations, virtually and never have to step foot on the island. What, what income would Barbados see from somebody like that?

It's not clear that you know that that will translate into an ongoing income stream. If in fact, tourism continues to remain the one of the primary sources of, of income on the island and another point from my background, you know, looking at search engines and the history of search engines, we now have a situation where we have one very dominant player in the search engine world right which is Google. There are others there's been and DuckDuckGo and a few others, but they're a small percentage of the market. We know a situation in which for very valid reasons beyond just proprietary information. Google keeps it the algorithms that he uses to to render search results incredibly private. And one of the primary reasons they do that is because if it became known how they do their how the algorithm works, how they do the ranking. People just manipulated, right? We have an entire multi billion dollar industry in search engine optimization, where people are trying to figure out how best to improve their search results on Google. Now

that's a perfectly legitimate thing. And and I and you know, people are more than more than welcome to do that.

The issue of someone somebody like Google is when that kind of optimization becomes manipulation and is what they are trying to guard against people trying to manipulate their search results for their own for their own benefit. It gets more tricky. When if you consider the possibility of the nefarious and nefarious motive behind search results. And I'm not ascribing any such motives to Google at this point. I am I'm just saying that, for example, if in a general election campaign, Google decided that they had a preference for a candidate who showed up higher on the search rank search results. They could and it has been shown in places like India, where that kind of ranking can affect have a direct impact on results, election results. Now, think of what that happened. What happens in a democracy when though that kind of forget just the regular you know, what has become a garden variety, misinformation that has spread on social media platforms, what happens when the trusted so so far, trusted sources of information ranking, if you want to put it that way? Are themselves trying to manipulate the public and in in ways that we aren't aware of because there is no transparency?

Expand that into the idea of the metaverse expand that into somewhere like Barbados, with a population of 280,000, 290,000 people. It's a very small island, as are most of the Caribbean islands. That kind of manipulation could have a massive impact on any number of social issues and social policies on on on democracy itself. So I think we, we have there are opportunities for sure. But we also have to remember that at every at any point in time, the metaverse is ultimately grounded in real life, right? The people that are creating it are living real lives. They are they are interacting with one another, hopefully in real life. And so the opportunities for the Caribbean, I think, are a challenge in the same way that technology, innovation is a challenge in the Caribbean because of the kind of halo effect that you get in places like Silicon Valley, Austin, Texas, New York, Boston, where you have communities in real life, that interact with one another to create the technologies and systems that we all use many places have tried to replicate that and it's not as easy as just changing tax policy. It's not as easy as having a nice climate. It's not just as easy as, you know, immigration policies.

There are special sauces that that come about. There's a special set of confluences of events that happen to bring all the ingredients necessary to have the is in these environments, where technology innovation, blossoms and flourishes and even even throughout the developed world you know, there are many cities that have tried to get become the next Silicon Valley, you know, become the next Boston for biotechnology and and haven't succeeded because, for various reasons, various complicated reasons of demographics, and, and, and climate and tax and all

those kinds of things. I mean, tax policies, how, how does how does taxation work in the metaverse, you know, and so, so, I think the the challenges to the Caribbean should not be understated. I think there are tremendous challenges as they are already tremendous challenges for them. For the Caribbean in the in the technology space. I don't think they're insurmountable, but I don't think we should downplay them because I think we need to make face those challenges head on, and and the possibility that our economies could be interestingly disrupted over the next several decades. As as this new reality becomes a reality.

Thank you so much, Alan. This is excellent. Everybody has kept to time and so we are ahead of the time curve a little bit. So I'd like to ask Michelle, if she could prepare some questions from the audience. But I'd like to kick off because and it's not just for more session, but particularly some things that Vladimir noted, but from the previous session that we had with Gabrielle Sebastian and Horatia when they spoke about the technological kind of foundation, and some of the other issues involved with this idea of the metaverse and, and I wrote this question and I'd like to pose it to kind of leap off into some audience questions and also some engagement between us back and forth. I wrote some of a country's and a government's key national development and national security responsibilities, in my view, and from my experience will materially be affected by the evolution of the metaverse. If it continues on its present trajectory. For example, if your major public services are delivered through the metaverse and access becomes restricted, for whatever reason, remember that, as I understand it, the government is not itself going to own this platform. So where does that leave? governments and citizens?

### **Annalee Babb**

And so I'd like to perhaps begin with with Avinash thinking about that, maybe jump to Alan, and then have less to come in at the end. What needs to happen to ensure that these types of technologies do not actually destabilize Nash, national security, national development, Avi and in particular, national economic development, and national sovereignty as well. I think that's important. I'd like to start with you Abby. And then I'd like to jump to Alan and then Lester to bring up the rear.

### **Avinash Persaud**

It's a really important issue Annalee, and I don't think we have a singular answer. Our approach is a new further say this before, is ownership also matters. So for a long time, the Caribbean development model has been education. Sort of riffing off Seraph Lewis's famous comment that the solution to poverty is not money, it has knowledge. But I think we've learned that knowledge itself isn't enough. That ownership also matters. So we have to think about how we can be owners of this new reality. Some at some of Alan's points I'm less concerned about tourism because I

believe that this actually will create new additional revenue streams. So people cannot visit there. We will pay for another experience, but we're going to have to actively make sure that we are owners of some of the augmented realities of Barbados, that we participate in there.

So I think it's going to be perhaps more diverse income streams that we had before and in the same way to your earlier question. I think we have to make sure that we're not dependent on a singular platforms as much as we can. If we can't be ownership, we can't participate as owners. And so that the this is additional rather than subtractive that we have multiple ways of accessing our citizens, of which these platforms are important ways. We're not the only ways and so we have we feel like building redundancy all that, but I think we have to think about how we as small states or developing countries, the global south can play a greater ownership role. And because because otherwise, we're just creating five new empires like the European empires of the past. And we need to find ways in which we have a different relationship with these new economic empires.

### **Annalee Babb**

Thank you, Avinash, if I could just ask for Vladimir to also be included in this this conversation. If he's still with us. That would be great, because I think he probably also has some some good insights to give. So I'll go next. To Alan, same question, Lester, and then Vladimir, please.

### **Alan Emtage**

Yeah, I think one of the key following on from what Avinash just said, I want to think one of the key issues here is going to be interoperability of the various platforms now I think that's going to probably have to happen as a matter of course, although I say that looking at, you know, looking at the Android Apple fight that has been going on for a decade now. You know, more than that 15 years, probably where they, you know, they absolutely try not to interoperate, and that doesn't necessarily bode well for universal interoperability of these platforms going forward. Everybody seems to want to own their own patch and not give it up to anybody else. And as we learned in the old, I'm going to date myself here, but the old VHS Betamax war, you know, only one may live, you know, at the end of the day, so, I don't know if that's what we're heading for or if we're heading for a more cooperative environment. It's hard to say at this point, it's such a new thing. I mean, we we do have, we have institutions that do this, right.

I worked in the IETF for many years. And this is what the IETF does it. It fosters interoperation interoperability. So we will we will see where that goes. But that is a key issue because if you cannot be afford, you cannot afford to be held hostage by by one platform. You must be able to move move between platforms easily if you're going to depend on this any more so than you can

depend on you know, having the the monopolies of all, you know if if, if the if your Internet service provider decides to cut you off, and they're the only game in town, you're up that proverbial creek, right? So

### **Avinash Persaud**

Do you might corrupt and give a little interesting. Alan triggered a thought in my mind, which is the interoperability can be considered a little bit like the 18th century navigation acts during the European empires. So in the Navigation Acts if you are Spanish island next door to a British Island, you couldn't trade with each other. You weren't allowed to navigate the waters. So you had Spanish ports are only traded. The Spanish islands only traded with Spain. They couldn't trade with each other. They couldn't trade the islands next door. And and we're in danger of creating this recreating the 21st century version of this unless we can crack some of the interoperability issues.

### **Annalee Babb**

Thank you both. Lester. And then Vladimir. We're talking about government's National Development, national security, national sovereignty and the impacts particularly in from where you sit less there. This is an important sort of putting on a hot seat to have some perspective on how do you manage these mega corporations. I Avi would would say because he's a numbers man, that they're worth more than the GDP of a tiny little island like Barbados. So how do these small island states really play with these massive global companies and the kind of market capitalization that they're also crewing? Please Lester and then we'll go to Vladimir

### **Lester Garcia**

For sure. So again, I think the metaverse per se is the next generation of the Internet or an upgraded Internet, which in we have been building together for 20, 25 years at least at least in this new stage. In that regard. Certainly. I I agree. We will be facing the same issues and same concerns as of today. Technically speaking, or market wise interoperability, of course is very important. And I understand the the issue between Android iOS and we can move to computers, devices, etc. And certainly you will have different competitive conditions however the Internet per se so open and people can develop their strategies and business cases, etc. That's what we want to build in the metaverse. I mean, it's not it should not be the rain or the property of one and only or a group of companies. I think everyone should have the opportunity to be there and in that regard, authorities, government regulators, they have as we all know they have been effective use the term learning and practicing for the last eight years on how to regulate the Internet. I'm certain if they're and this is my as a former regulator, my view is that you you need to regulate when there are when there is something to correct in the market, not just regulate for regulating.



So if things are not working correctly in the market, certainly regulators are finding the way to cope with that. And to this to the bank decision, make regulations that that will that will turn the market in the direction of more efficiency and more fairness, if I may. So I don't I want certainly the challenges are going to be bigger because we are talking about something more massive, much more immersive. Our concerns of today of the Internet will certainly potentiate in that sense for because of the number of people connected because of the interactions because of the amount of data but I but I think it's it's the same issues that we will be facing. It's the scale perhaps that will change and in that regard the challenges there for regulators but again, regulating a market being in a digital market or any other mass market depends on the effects this market, this this economic entities creating the market, not in the the desire of the authorities or the government to control the market.

### **Kim Mallalieu**

Thank you so much. Vladimir?

### **Vladimir Radunovic**

I guess we need the full three days more to discuss these challenges, but building on previous one, I think it is a scale. That is a challenge but it's also pace and I think that's even bigger challenge. If you look at patients that are jumping into NF T's and crypto world and decentralized things are moving so fast that maybe also because it's so decentralized, that we're not even people that are in the field are not managing to get it let alone you know people that should be steering in some outdoors economy with all the disruptions you're gonna have in mind, we have to understand how that works. And let alone the regulator's of diplomats and so on which which are generally very slow in this. So I think one thing that we all particularly us from from developing countries, but the whole world should learn more is what is the exponential function I think we don't understand it. But going into into into details of the let's say the Caribbean perspective, maybe developing countries perspective. On one hand, there is infrastructure that is needed and and I know that is anyhow in the focus of of the Caribbean is infrastructure, the access to the Internet, but this goes steps beyond because you need much better infrastructure as we discussed, including the servers and the gadgets and all that.

The second one is standards and a quick reflection on that there is a one of the trends which is showing on a global level is the going towards the open standards open XR not just open source, but open standards, open concepts. And I guess the developing countries can actually onboard that and help maybe within different sensation bodies and for to push for more open because that is what unbundled this dependence and these opportunities for only the big guys. That's what

which allows you to maybe play with the Lego, like you know, components and create something on your own. And the good wanting to decentralization is that probably cannot do much.

But there is this is a general global trend and fight between the current big tech giants and ones and then the regulatory frameworks in the EU and US and China. So I think in a way it helps this battle helps developing countries as well, but we have to follow it closely. Not going to open the leash of security. I think it's a specific thing that we still can't see. But the only thing we see that as soon as technology becomes critical for some sort of national security. There is a whole game changer and you have politicization of states jumping into that. You can see that that with the IoT with the AI and so on.

And maybe lastly and I'm back to something I said at the beginning was the capacities and skills to understand and use smartly these technologies rather than running into that if you if you take a look at which countries have the first embrace the the national cryptocurrencies it was the Caribbean, not because it's Caribbean but it's small countries, right. US, China, eu haven't rushed into that. They spend a lot of time in analyzing what brings what it brings. Because they have capacities they have, you know, people that can basically deal with that. So I think one bit when developing countries should think about and that's maybe an input to the next discussion on skills is that when we train kids and young generations into dealing with new technologies, that we have to help them also understand the society and the impact of the society. So that means not just the skills, but making them responsible citizens in this new whatever web three zero world where they would understand also the privacy, security, economic aspects and all that while developing that world.

### **Annalee Babb**

Thank you that's a fantastic response. I add like not to to overstep into the next session, but that skills issue is a very important I look forward to hearing what they have to say on that issue. If I could ask the CTU and Michelle, are there any questions from the audience that you might help us the field now?

### **Michelle Garcia**

Yes Dr. Babb, we have many questions lined up for panelists. This one is from our Facebook Live streaming platform, from [name]. Asking seen that the metric seems to have some ties with cryptocurrency. Will there be some formal adoption? Would there be some form of cryptocurrency within the formal financial sector? And that question to

That sounds like a question for Professor Avinash Persaud.

### **Avinash Persaud**

You know, the crypto currency investors, we come to us a lot. I mean, one of the challenges of being a small state is we attract a lot of entrepreneurs of things that are both good and perhaps on the edge, between the cracks and some of these crypto investors are being pushed away from other places. And so we have to be very careful to make sure we do the right thing and our philosophy so far, I think across the region has been it's not clear to us why cryptocurrencies need separate regulation. The essence of regulation is protecting consumers and protecting the financial system. And so the way we regulate a volatile current volatile security is by making sure that we don't expose the vulnerable consumers too much to it until it becomes more stable. Perhaps.

Most of crypto investors really want regulation which allows them to be exempt from more regulation and so far, we've been resisting. And I think I think with good reason, I think I would say one broader picture though, which is that there needs to be account that there are a lot of important powers in the digital world. They are because of the power of because network economics encouraged encourages bigness. And one of the things that that metal wants to do legitimately and go on to do and keeping its its algorithms secret is to create big networks. And that gives them tremendous economic power.

And we've been there before. These are this this is monopoly power, or oligopoly power. And we do need to think who is the countervailing force? Is it going to be people? Is it going to be producers? I don't think they can be accountable for so governments do need to play an important role. Not not to discourage the innovation, you need to somehow get that balance right between innovation, but also making sure that power is not abused. And people have access to a small state point of view. We can do two things we can agitate for global policy response, and at the local level we can do a lot to make sure that our people can be producers and not just consumers on these platforms.

### **Annalee Babb**

Thanks, Avi. Alan, Vladimir Lester, any responses to that question from the audience?

### **Alan Emtage**

This is not my bailiwick. So I'll stay out of that.

**Annalee Babb**

Vladimir, any perspectives?

**Vladimir Radunovic**

Just maybe a quick one that was what I just mentioned is that there will be global for that. We'll be discussing these things in one way or another and unfortunately, again, because of the lack of, of capacities the small states have, including in diplomatic circles, if you look at the missions that small countries have in in Geneva or Europe or somewhere else, it's really a couple of people and very few of them that actually understand this. We need to make sure that we are able to fall and that's my dog barking, that we are able to follow the discussions in you know, WTO or Ito, whatever things happen. And I think it has to be it has to be a top on the agenda.

**Annalee Babb**

I see, but this this becomes I think a very, very important issue and Avinash because of your your position within CARICOM, but also in government. If you go back to the to the model that I shared that that's almost 18 years or more ago, that I developed that and I think our small island states have gotten worse, Vladimir, at covering these issues, because they require resources, money, people to cover and to report bought and systems and structures and so on. So again, I come back to the point that Avi began with. He said, We think that technology is this wonderful equalizer. It's not and as it continues to evolve, it's getting more and more challenging for small island states in particular to manage.

So I put it out to us as a group. Do they have solutions with respect to how the Caribbean and maybe I should put although he's not a part of this panel, maybe I should put the Secretary General of the CTU on the hot seat and asked in this context, what are they seeking us plans for helping the Caribbean as a region and I assume you would work very closely with Professor Persaud and his regional position within CARICOM on that Economic Council, but what's the plan? Do we have one or these conversations supposed to help us begin to map out that plan or strategy?

**Rodney Taylor**

Thanks for putting me on the spot. Of course, we do work closely with the CARICOM convention on economy, which Professor Persaud is chair and in fact, a number of recommendations along developing the digital economy that come out of that commission including the promotion of the single it space and in particularly the nation of roaming to help drive the uptake of data services and so on. So we definitely work closely in that respect. Certainly, we call them for this reason to be a part of this problem, because we certainly need that even this in terms of building awareness

is part of the is a piece of the puzzle. So how do we get entrepreneurs and innovators excited about the new possibilities? I spoke about government intervention, yes, that is one thing, but you also need the uptake of citizens and you also need the capacity of the private sector to be able to provide some solutions.

### **Rodney Taylor**

And one of the things that actually that Professor Persaud said, about growing inequalities in particular tourism, you mentioned, mentioned, it was were someone mentioned over but what I wanted to challenge him on is in particular, for these platforms that are providing well providing platforms for the sharing economy, certainly low latency Lucy with our two bedroom house can participate within this, you know, digital economy by you know, accessing Airbnb. FlipKey and all these things that she did not have access to before. So certainly it provides an avenue for leveling the playing field, play field with the big hotel sectors and so on. In fact, there was some degree of pushback for the services by the health sector at some point and same for the Airbnb ride sharing platform because I can opt to have to always take my vehicle and you know, make a few extra bucks. So in a sense is that know also part of the leveling of the playing field and providing opportunities for disenfranchises? Those who are not connected necessarily or true, you know, can't afford a permit a high cost participate within this growing digital economy.

### **Annalee Babb**

Yeah, well, I just want to make a comment before I ask Vladimir. He has his hand up so he wants to make a comment on this but But you remember the whole notion of creative destruction creative destruction. Rodney because the the the entities that will be affected by ride sharing and those things and our small Takashima those who make the lemon so how do we manage and this is probably Avinash his bailiwick as well, but the creative destruction that technology introduces into economies as we grow in cycles. Vladimir please?

### **Vladimir Radunovic**

Quick comments, not that much on on credit disruption, but rather on on this representation participation of the small countries. You mentioned that it's it's it's also the matter of money and people and resources but it's there are well first of all, it has to become strategic political. Priority. And you can see that in digital policies as well. As long as it's digital policies are not just digitalization without the policy is not the priority of the higher level of governments. It's not there. It's not on the agenda. So it has to become a clear understanding of the high level people in the governments that this is this is the next step. You need to think about digital, everything is digital. It's you know, there is no more cyberspace. This is the real world. It will be become the same with a metaverse at some point. So its strategic priority.

And the second one is working together to let's say, optimize the resources on one hand, certainly I'm sure that the Caribbean States at least to the city, you work together also in the New York in Geneva wherever things happen and that has to be reinforced. There is another bit, which is the representation today is not just for the government's well obviously when decisions are being brought Yes. But in many many cases it's actually about being in the dialogue contributing to the dialog. And guess what you have amazing number of people and I'm sure you all know them, which are not part of the government. But they are somewhere in ICANN and even in ITU in in various business communities. You have your representatives everywhere around stabbing mapping them whom you have where they are well they can do their I'm sure very big patriots, they will help so try to get all the resources you have all hands on deck you know, if you wish of the Caribbean people in different institutions and for around the world, the IGF the you know I Tripoli and so on. And that's my advice always when when doing the trainings was more countries for diplomats. Start working with other NGOs with the NGOs, businesses, you have to work on this together.

**Annalee Babb**

Thank you so much. Shall other questions.

**Michelle Garcia**

Thank you, Professor. No question that we need to make the tech revolution as progressive, powerful for all I would like to add to support. So this next question comes from Mrs. Taylor, who asks, How do we get the older generation involved in the new reality? Of the metaphysics and all that it offers, instead a concern of leaving them behind and widening the gap already created by the online accelerated by the portal thanking them.

**Annalee Babb**

Thank you. I will I will begin with perhaps the youngest among us. Alan, can you can you give us a perspective because you you were there at the beginning of this whole search engine idea and so you've seen the progressions of things and so on. So not that I'm putting you on the spot but but how do you get older people I'm assuming you're speaking perhaps about people who are older than any of us in this discussion right now. Well, how do you get them involved and ensure inclusion? Across the board out and would you begin, and then I'd love to hear from Lester as well. And then from Vladimir?

### **Alan Emtage**

Well, I'm flattered. I think I'm the I'm the youngest person here. I'm not sure if that's true. Actually, but we'll move on from there. Got it. That's a real challenge. I mean, that's not to not to, you know, not to make a joke about it, but it's a real challenge. I have several elderly relatives, that I keep an eye on in various ways. And I will tell you that you know, it's a conversation that I have amongst my friends quite often and and have been having quite even more so recently with exactly this topic, you know, NFPs and metaverse and all of these new technologies and saying to them, you know, are we going to be what our parents are to the existing technology for the new technology, you know, are we is it going to be as challenging and as confusing to us, as the existing technology is to the generation above me?

### **Alan Emtage**

And I think that's, you know, that also depends on user interfaces, right? I mean, a lot of these issues go away if you have good intuitive user interfaces. That also requires money that also often requires expensive equipment or hardware or something to the virtual reality world is not going to work. If if you get something that works at three frames a second, right? It doesn't it doesn't work, unless you have the capacity to truly interact with it. And at the highest best level. And so I I think this is really a challenge of of design and access, but creating an interface into this into this new world that allow people to do so in ways that are familiar to their existing life. You know, if you if you step into virtual reality, and you can have a conversation with somebody, and you can interact with the technology be AI or a real person in a way that's familiar to you. That will go a long way.

The difficulty with the older generation is largely about complicated, often unnecessarily complicated interactions with the technology, because they are being built by young people who understand them. And I mean, even myself, I'm a technologist I've been I've been working on the Internet for years. And I marvel at some of the the true dumpster fire interface user interfaces that I see coming out of evil, evil, even major corporations and I think you guys you know, you guys, how are you doing this? How would this ever get out? When? When? Because it comes in sooner, right because it becomes a small group of developers in a small group of designers, and they become somewhat incestuous. And they think that what they're designing is understandable to the rest of the world and it's not and so that's my only solution to it really is....

### **Annalee Babb**

Alan, that is an excellent response. I think that we have run out of time, I think that we only have about one more minute. So I unfortunately, Rodney need to do this again, and let us focus on some of these key areas to just have a whole session on but I think that's a wonderful point. To

end on from Mr. Alan Emtage that interfaces, user interfaces design. I will never forget, my mother is elderly, and she had a real challenge and still does, working on a computer, keyboard, typing and so on because it happened.

So I remember when they first came out, I got her gift of an iPad. And when I showed her you can just point and she says Oh, I want one of those. And I actually had to bind her from the Apple bookstore because she just went on and she was able to buy her books and do things. So this notion is about inclusion, Alan, and everyone else and if the people who are designing these, these technologies do not reflect the world, then you're going to have a lack of access. I think that's a wonderful note. on which to end. I would like to thank all of you for an excellent discussion. Rodney and Michelle, we look forward to the CTU inviting us back to perhaps choose one or two of these topics and drill down a little deeper. Thank you all so much for most engaging conversation. Back to you.

### **Avinash Persaud**

Thank you.

### **Rodney Taylor**

Thank you as well. I've said we are really doing three webinars in one but just to because we wanted to touch on on all of the issues in reverse itself and what it meant as a technology and the opportunities and risks, challenges and so on which we've adequately dealt with. And lastly, the skills and this is we're coming on out to the third like last segment digital skills to support the metaverse. We'd like to introduce the moderator, Michelle? The panelists.

### **Michelle Garcia**

This session will be moderated by Mr. Java Sealy, who is probably this is CARICOM youth ambassador and and the speakers to this panel session include Dr. Kim Mallalieu, senior lecturer of the University of the West Indies, St. Augustine campus. Mr. Stuart Butler who is the course director, School of digital arts Staffordshire University in the United Kingdom. And Kristie Powell, technologist of the Bahamas.

### **Java Sealy**

Thank you so much. Thank you so much, Mr. Secretary General, a blessed Good afternoon to everyone. I think that the last conversation was a beautiful place in which to start because we're speaking about digital skills. And one of the principles skills is design, but let me not get too far ahead of myself. Like Michelle introduced me. Good afternoon ladies and gentlemen. My name is Mr Java Sealy. I am Barbados CARICOM Youth Ambassador but what that doesn't say is how



passionate I am about technology and how it is used for regional development. So ladies and gentlemen from across the world I want to issue a special hello, and I wish to welcome you to the third conversation of the knowledge cafe. I also want to say good evening to those any further physical regions like the United Arab Emirates like His Excellency, Ambassador Abed, who led a brilliant first conversation to those also on the African continent and just a special Good afternoon or good morning.

Now, I would argue that just by assembling in this virtual space on such a special occasion, you know we are one big step closer to experiencing the metaverse and I think we largely realize I want to equally congratulate the Caribbean Telecommunications Union and the government of Barbados for hosting such an event because I believe it was Professor Prersaud, who would have mentioned just how far sighted it is. And that's largely because as with all things technology, the change will happen with or without our attention. But we're bringing our attention to a very rich opportunity, not only for survival, but for more economic and cultural repositioning. If the last conversation with any indicator, you know, so far we've spoken to the very technical terms, like crypto like the blockchain, like NFT's like the different technologies that are used on to the economic opportunities, and we've outlined just what constitutes the world that is literally being built out.

By combining these skills, you know of traditional skills like architecture, and combining in collaboration with game developers to manifest you know, human imagination and even define the physics of our physical world. And that's just one part of web 3.0 semester SG as the Rodney tail I want to thank you for the vote of confidence that you gave me in your opening remarks because like you said, I was born for this, me and millions of others who are defined by you know, the generation bracket Gen Z, though, you know, it is largely understood that, you know, this is this is what we were born for, contrary to what we believe, you know, the metaverse is really for all of us. Just as is the Internet, you know, from the look of things know, with large tech companies leading the way on inclusion, and diversity for persons of all capabilities. The premise our promise of the metaverse is to be shared by all humanity so that we can enjoy the potential for enrich economic earning and human benefit. And I'm glad that each conversation led up to where we are now.

And just to give you a brief anecdote before I introduce to you this amazing panel that we have today. I want to tell you a story. So I have a younger cousin born in 2006 and he is absolutely bent on gaming. Every free second he can get after he's finished with online school he will search relentlessly to load Steam, or Nvidia games, he'll find his way onto Fortnite, find a lobby and immerse himself in a community with a passion for sharing their gaming experience. And I

learned by watching him that it wasn't about the addiction to the game, but it was about practicing and skill, because he envisions an entire career out of this, and whereas our family would want him to be serious and envision, you know, getting a real job. He seemed to understand from early many of the things that we didn't. You know, I'm sure that this is how most of the creatives in the Caribbean feel because we agree largely that our people are creative, and cultural capacity is one of our greatest resources and assets. But these skills are some of the ones that are imposed on elements of the metaverse already with the creation of music and art NFTs and just selling unique assets while they're in theory you so while we may have wanted him to sharpen his skills and accounting, poetry, business, whatever, you know, he sees them as irrelevant and it's much more interested in computer science and coding in game and app development, and specifically game architecture.

And he's 15. And his point of view gives us all a glimpse into what the metaverse will be as our hardware and we catch up to what is new to our software ambitions, but largely we still are involved in not only being passionate consumers as I've mentioned before, but equal partners in the creation of a world that the online world bank from so today under our special theme, we're here to explore those things skills, you know, given that context that are needed for the Caribbean to position itself they take advantage of the same opportunities, you know, identified in position before, moderated by a lady to whom I referred to whom I am referred to us or number one, none other than go to Alibaba. And you know how this might impact original academic institutions in the short to long term. So we have with us the perfect panel for such discussion.

Joining us this afternoon is none other than Dr. Kim Mallalieu, a senior lecturer at the University of the West Indies who present us meeting the metaverse rethinking Caribbean academic institution, we'll also be joined by Mr. Stuart Butler, the course director the course director of the School of digital arts, Staffordshire University over in the UK, who will present to us on the transferability of games development skill sets for the growing opportunities, building the metaverse. and finally by a young technologist Miss Crystal Powell who'll be given us a presentation. So each presenter will speak on the broad theme of digital skills to support the metaverse with their own presentation. We only have an hour here today. You heard the repeated calls for us to have more spaces. So today I would ask that each presenter you know use 15 minutes only so that we can have an extra 15 minutes to really discuss this in greater detail. Thank you so much Dr. Mallalieu a little bit floor is now yours.

**Kim Mallalieu**

Thank you Java. You can see my screen and you can hear me fine. Yes.

Excellent. So thank you very much for the opportunity to share some preliminary thoughts, Meeting the Metaverse Rethinking the Caribbean Academic Institution. So I wanted to use the very few minutes that I do have to chat a little bit about the flows from the metaphysics into Caribbean academic institutions but also the flows out of Caribbean academic institutions to the metaverse. I sense from the conversation today that there's a great deal more interest in the flows from the academic institution to the metaverse. So let's start there. And you can stop me at any point. So what we will deliver to the metaverse as Caribbean academic institutions is a bundle of knowledge skills, attitudes, and also and also products. And I do see that these are pretty much an extension of existing programs, though. They may look different though they may sound different. Much of the foundations for the metaverse the knowledge, skills, attitudes and products for the metaverse are grounded in existing programs that are at our academic institutions. You've heard a lot about metaverse, and you will understand from all that you've heard today that words and experiences that comprise the metaverse require the making of assets by creators a whole range of creators, the attracting engaging and helping within this this metaverse and that is all to do with community building.

Of course the designing, as Java has mentioned, the organizing of experiences which require a whole range of builders and even designers. Yes, but much more than game designers much much more than game designers, I would say Java. The opportunities to explore learn and enhance and this requires a whole host of participants to play and earn to customize and much more unmatched to connect the physical and virtual world. This will require bridges of all types cartographers, historians, digital twin implementers naturalist data providers analysts, public health and safety experts, experts state a spatial mappers and more and more. Not only that, but the development of real time content by whom, by a set of a whole plethora of performance actors, musicians guide streamers, etc, etc. So when we think of the skills, the knowledge and attitudes, not just skills, but knowledge and attitudes that accompany the skills for the metaverse, we must think of this in terms of a number of existing and expanded buckets that cross these areas.

Annalee mentioned today whose six layers of access and I I put to you we can use John Reed off's, formulation, seven layers of the Netherlands to understand the different parts of this universe that go into building the whole thing. So several times today has been mentioned has been made of the of infrastructure infrastructure that enables the metaverse for example, 5G, Wi Fi, six g, cloud, etc, etc. Infrastructure. A lot of the work that I do, is it at this layer this base layer infrastructure on top of that, of course, there's human interface in mobiles, smart glasses, wearables, haptics gestures, voice, neural networks, all of this neural systems, all of this in tune, scoring a whole set of skills required. Much of this, these skills, knowledge products are actively

being developed not only around the world, but there's quite a bit of activity in the Caribbean. decentralization of course, as you know, is central to the metaverse and this goes for edge computing, AI agents, microservices blockchain, but I don't want you to think of the metaverse as comprising only this layer of edge computing, Blockchain etc. There are seven layers and each of them is in a sense a universe on its own spatial computing. 3d engines will do reality, augmented reality. You've heard about this.

The creative economy, huge, up and down huge, vertical and horizontal value chains within the creative economy. Design Tools of all sorts, design methodologies, designers, asset markets, workflows, commerce. Discovery is a whole universe of its own. And this is enabled by a network of persons of humans who create ads, encourage social enterprises and activity, curate content, read, build stores, or agents etc. And then the experience the experience that is brought to you through a number of channels, games, eSports, shopping, etc. So when we think of the skills that are required, I want you very much to understand that these skills are not located only in the tech enterprise, but they span the whole range of infrastructure human interface, decentralization, spatial computing, creative economy, discovery and experience that in tune, require a broad range of skills and disciplines.

I also want to give you a sense of what academic institutions get from the metaverse here. For example, I teach communications at the university and I would love to bring my students into remote areas where they can understand the nuances of the typography, the morphology of hard to reach areas so that they can come up with innovative and effective solutions to serve the underserved with context appropriate telecommunications. It's not always that I can grab my whole cohort and take them up the mountains for example, to ring corn. I would like to experience what we do experience when we go up the road to [inaudible]. So from the metaverse, I would like to draw on the skills and the facilities of augmented and virtual reality, drawables So, if you can

### **[VIDEO PLAYS]**

Sgo today, and begin to scan this route, you can see I start to scan up here because I'll take a good minute. So I think we are ready to use this. So now what I'm done doing I have my scan and I start to add my information for artificial intelligence. I hold it around this environment and then using integration with Google lense. I can get the names meditation, you just put a label to names and then video audio located throughout duration I can add it very simple. That's it HDMI extended to HTC. Nick your voice data and video information guide you through the step by step process. That you do during the session is comprised of big tech elements made of glass. help you to install

standard as you can see here, connections that you have to have in mind, one here, blue one that goes in the second outlet in the black. So today...

So you see that I would like to use these tools also the tools of the metaverse in my teaching. And this will enable me to provide experiences that are too expensive in time and resources. To implement in the traditional methods. So what we see is a sense of the capabilities in the classroom for virtual reality augmented reality. There are many tools that are high level tools that we could use of universities to to build these realities extended realities.

Aeon XR is one such and this alone requires a number of skills and content and content development of its own to bring into the classroom. For example, we are required to scan the environment with for example, the smartphone to create a 360 degree environment that I wish to bring into the classroom. We need to photograph highlights of of key artifacts, we need to add content as you saw in the video, adding annotations and content we can this is facilitated through Google lens. We can add PDFs. You saw the introduction of assessments and quizzes, there can be location and identity based challenges etc. And then you can demonstrate by walking through pointing out artifacts etc. At this time you we have trained 300 educators on the EI XR platform more than 30 persons will be trained per month in 2022. And a number of courses are planned to be developed using XR. But I it's important that that we understand that oh gosh, is that high impact educational practices are key to the development of academic programs and the delivery of academic programs. So we must always look at the entire picture, not simply because the conversation and the hype is around metaverse that we can step away from the key strategic objectives of an academic institution.

The high impact educational practices there are several of them that are well established. The first year experiences of students common intellectual experiences, learning communities, diversity and global learning, writing intensive courses e portfolios, service learning community based learning, learning internships, undergraduate research, collaborative assignments and projects, capstone courses and projects. So we must ask ourselves, to what extent can the metaverse assist in these activities to enable higher learning outcomes? Also, how can these activities be put to use to deliver to the metaverse and the rest of of reality, those skills that are most potent, it is also important that we understand that there are standard criteria that can change over time for assessing the universities and the World University Rankings is one such and the rankings are spread at this time over a number of channels, teaching research citations international outlook, and industry income. So all of these are part of the academic enterprise. The higher reality check, I know that my time is running short. So I'll speed up.

I want you to think when you think of the academics skills develop to an academic institution, that the academic institution comprises many different enterprises of itself. The academic enterprise is won by a number of enablers and of course there is business the at the center we are we recognize the need for access for all to affordable quality tertiary education. There is a demand for lifelong and online blended learning credentials, credentials, unbundling career orientation, specialization and consolidation and at the same time, our resources have declined globally and of course, also in the Caribbean. The opportunities though, is that global higher education enrollment is set to increase hundreds of for that between now and 2030. So this all calls for a 360 rethink of universities in the Caribbean, regional universities, the academic elite within the academic enterprise, we ask how can we differentiate ourselves? And we ask fundamental questions like What are contemporary fundamentals that must be taught at university practical matters, such as plagiarism assessment, and very importantly, who will be left behind enablers? Digital transformation, which we're going through right now, but other practical matters, like enterprise architecture, platforms and applications, open education resources, digital and IP rights? electronic transfer records, the whole student experience, identity management and differentiation, again at the business level of differentiation, revenue generation and fresh models, models, fresh models for processes procurement. HR market, and most importantly, formal and informal partnerships, which really form the center of the way forward for the Caribbean academic institutions, both formal and informal partnerships.

So I will close by saying that the future of the Caribbean academic institutions rests very, very centrally on the establishment of differentiating factors that come from the Caribbean itself. That emanates horizontally and vertically through a variety of value chains. The draw on what it is we bring to the metaverse our voice, our analysis, our poetry, our dance, our art, our sport, our technology, the platforms we have developed, but very much so at the heart of this is the community of development focused individuals in the Caribbean that span all of the sectors, including technology, and I know that my time has expired, so I will leave it there and happy to continue the conversation.

### **Java Sealy**

Thank you very, very kindly, Dr. Mallalieu. I think that that was one of his really in essence, a representation of I believe the Caribbean academic history is very dense and it's you know, composition was very skillfully delivered. And I think that that means that it gives me a lot of hope as a proud graduate of the UWI Campus, and therefore I want to know use this time to transition to hear from Mr. Stuart Butler, and Stuart I want to give the floor to you to present known on the transferability of games development skill sets for the growing opportunities building. Oh, metaverse, floor is all yours, Stuart.

## **Stuart Butler**

Awesome. Thank you very much Java. Thank you very much. And yeah, it's fascinating to hear, as always being the second person to speak to you when you've got graphics and slides. So one or two might be familiar. Just to share my screen nice. Just bear with me. Should be that one. Hopefully that's visible. Awesome. Yes.

So I was asked to kind of give a perspective on on skills and the sort of skills that would be beneficial for university students. And young people generally to work in towards building the metaverse and what skills in say five years time it might look like. And my current kind of feeling about this is very much focused on what we currently do here and how the skills that we are currently teaching in in our games development courses, I think students into a good place potentially to feed into the growing opportunities at the metaverse office and in from there, so I wanted to start by just outlining what job roles are already predefined as games industry, and I decided to initially on what the Internet believes that to be.

And indeed.com which had ran a fairly interesting article on the seven key roles of the games industry leader on the left there so design art, sound engineering, programming level designers, testers and games producers. And one thing that I thought was oddly missed was the other side of that, which is the interaction with users. And so I also added a few key ones there which are things like animators, broadcasters, creators, event managers, promoters and researchers. Now, I think it's the next slide that will look familiar. No, it's not the next actually, it's the one after before I go on, linking back to what was already been mentioned, actually, I wanted to bring up a study that was conducted in 2020 is actually from research from 2017 to 18. By Burning Glass in Epic Games, which is looking globally at the demand for real time 3d skills, and how technology and the technological requirement for interactive media has grown exponentially over time, some of the some of the headline points here made on the on the right hand side is the the increase of open job roles that are looking for 3d graphics skills.

## **Stuart Butler**

Now this is just looking purely at real time 3d skills, no consideration for the metaverse or gaming specifically, but just real time 3d skills because that's ultimately what we're working towards. This graphic should look familiar from the previous speaker. What I wanted to do with this and the reason why I've included this naturally, it's very helpful, Kim that you were that you brought this up. This is John Rudolph's idea of all of the jobs that the metaverse is going to get, which I think actually he's a very good commentator on the metaverse and his his blogs and articles that are fascinating to read. But I wanted to do from this is actually to highlight which of these jobs are

already very active in the kind of 3d Interactive Media kind of world that the metaverse is off. And so I put a little green tick which some of them are hidden behind my face so apologies my faces in the way these are the job roles that are actively employed within the industry as currently sets.

So I probably a few more of these have stretch you could branch out to. Some of these key roles like artists, modelers, writers, designers, character artists, videographers, these are already key skills that are being taught across the world, at academic institutions for students wanting to become games developers, or even just interactive 3d media developers. So that could be looking at film it could be looking at VR and AR applications. It could be architectural visualization, any of those kinds of real time 3d applications. These skills are already there. So this isn't a case of the new tickle. metaverse comes along and we need a whole new set of jobs. We still got we've got the skills already. We just need to re angle than the slightly I also included on the left hand side as a small asterisk against performance. Performance currently feed into games development in us in a much smaller context, and they will do or their prediction for the metaverse performance at the moment feed into part of the creation process but not the real time delivery. The benefit with the metaverse with the addition of the metaverse is that those performers are able to provide that performance in real time. So slight difference for them on that. I think I've got a little because I was going to explain these this slide a little bit more but that's already been kind of covered formed.

But one thing that I think is really important to understand is that whilst the metaverse is new, and very interesting, and Java, you said yourself about was it your brother or your cousin Sorry, I was in and out so I had a somebody pop into my office but there is already a very passionate interest for young people in these digital skills and these developments and in the in absorbing the content that is already out there. You mentioned about fortnight and jumping in every fortnight in itself has become a platform for something other than just games in its in its just in his nature with concerts and all sorts of things delivered in a digital world during the pandemic.

So, there's already this keen interest. We already have skills there. We just need to as I said before, just redirect them slightly towards what we're working towards. A few things I would point out about this, I find digital twin implementors to be a slightly ambitious statement because that could be digital twin, but as in scanning of spaces like we've seen already. It could also be digital twin as in a character model. So there's a few things around some of these claims, I think fit into multiple areas, but like I said the skills kind of already there. So the question that I was asked when I speak to the CTU a couple of days ago was how can we prepare young people for building the metaverse and I believe at this point, that's a really difficult question to answer. And the only reason I say it's very difficult, is I can't honestly say I'm not sure anybody can what the metaverse is going to be in five years. If someone was to start a university degree course, this September in the metaverse. I



don't feel we could be 100% Sure what in three years time the metaverse is going to look like it is moving so incredibly quickly.

But what I am yeah, I'd say I'm very about is that we are going to be providing real time interactive 3d experiences. So if we focus on those skills, and have those skills in place, add that awareness of the metaverse and an adapting awareness of the metaverse and that's the important thing is that we don't we don't stay now and assume that's what it's always going to be we make sure that we are dynamic and that skills are going to change as technology moves on. We need new differences. Virtual Reality augmented reality has already made us change how we look at interoperability within 3d applications, where we used to have a keyboard and a mouse or a normal joystick controller. We know looking at having our hands we can interact with things via a touchscreen, etc. So that flexibility and that dynamism within the way that we look at learning and the opportunities that we can have is key.

The other thing is the risks. I think it's important to know that if we if we build specifically for one platform, there is always going to be a risk that it may not be the platform that grows. So an awareness of what the metaverse brings both positive and negative is key. But if we provide graduates with the skills to contribute to any interactive 3d media, my belief is they'll have the skills to be able to build the metaverse or help to build the metaverse and expand it progress it and provide the experiences that that your family are already so excited about the children everywhere. My kids are a little bit younger and they're already I can't keep them away from sort of creative based content on YouTube whether just watching people play games and that's a fantastic future can only be only be expanded. But as I said before, I don't feel competent enough to tell you exactly what the metaverse is going to be in three years time, let alone 510 15 say the exact skills I think we have to be. But if we aim for interactive, real time 3d experiences and those core skills to create those I think we set ourselves in good stead worldwide. Yeah, that's pretty much my I think I think that's a lot. But like I say, somebody beat me to the other graphic.

### **Java Sealy**

That's no problem. So I just want to thank you first and foremost Can you see me Can you hear me? I can. Yep. Perfect. No, it wasn't wait. I mean, though, it was short. I think it was short and sweet. Like you said Dr. Mallalieu really did delve deeply into the potential implications of the metaverse, you know, beyond or rather, it's just beneath the layer of experience there really is so much potential I you know, we speak in terms you know, these speaking very, you know, to all of our participants, you know, we speak in very idealistic, you speak in sometimes technical terms, but there really is, it really takes a while to grasp, I would use the word the bigness, the largest of the potential for the metaverse not only for experience, while we can use experience to enrich

already existing experiences, especially the academic, you know, traditions that have gone before, not only the traditional, you know, I would say source markets like Europe, but especially in the Caribbean. No. I'm really excited to the conversation part of things but before I get into the conversation part, I don't want to transition and give the floor to Miss Kristie Powell, you know, the young technologists to make a presentation so that we can start to flesh this so a lot more until dawn you know, the traditional perception of the metaverse only being for gaming and social interaction. So Kristie, I want to know how.

### **Kristie Powell**

Thank you. I promise I won't actually keep you from the questions much longer. But thank you for the opportunity to share my thoughts with you today. On the panel. This theme obviously is focused on us to explore the skills that are needed for us to take advantage of the opportunities within the metaverse and as we've come to understand through the past panel discussions on my predecessors, the metaverse is a 3d virtual space that will eventually mimic the physical nature of our real world and introduced the concepts of augmented reality and virtual reality technology. Two technologies that exist today but will continue to evolve as humans continue to be curious and machines continue to get faster. And the metaverse gives way to driving rich interactive experiences in a virtual world but it also allows us to remove barriers like proximity. And the courage is typically the metaverse gives us the opportunity to dream of a world where we may no longer have trade barriers that exist between let's say, Jamaica and the Bahamas.

For example. It can be argued that the metaverse will continue to be treated like a wholly new territory on its own. It will allow businesses from Trinidad or Antigua to participate in a singular market economy. And that's a topic that's been heatedly debated, I would say for years in this part of the region the impact of real world waters, treaties and sanctions on the metaverse remains to be seen, but at its core businesses will be able to trade freely without geographic constraints and there's power in that due to the pandemic from an educational context. both teachers and students have reached a new level of understanding in dealing with technology because they were ultimately forced to. And the metaverse because we're an archipelago of islands we can stand to gain from this technology. In a lot of real life, and especially in the Bahamas. We can't always afford to send a specialized physics teacher for a handful of students to an island where the population may, you know probably only be approximately 50. But those of us with right level of access to technology can join a class in the capital. I propose that we quickly check with the government and students on how much they know about the metaverse.

But during this adoption will need to continue to be mindful of the digital divide. The Divide refers to the existing economic and social inequalities that impact our access and ability to leverage

modern information and technology. We will need to ensure that those who need the access will have the access to ensure that they don't continue to fall further and further behind. The talent pool for emerging technologies such as artificial intelligence machine learning the Internet of Things, augmented reality and virtual reality will continue to fall short in filling the global demand CIOs. And CTOs in both the public and private sectors frequently lament about the dearth in tech talent when discussing the challenges to their digital transformation efforts.

For us to truly take advantage of the metaverse in the Caribbean with this new paradigm, we need to focus on the technology stack at its core. That means network engineers, how will we ensure that our networks are stable enough throughout the islands and strong enough for us to even participate in the metaverse, software developers? Are we producing enough software developers to be inventors of this new technology? Are we learning in archery education institutions? The right programming languages to support this? Data privacy and security experts? Public and private sector struggle with this today? Are they ready for the metaverse tomorrow? Currency and payments? Plus, we can sell goods and services in the metaverse but what will the new payment verification system look like? Lawyers focused on it and compliance? How will this will be regulated? To help fill this void and answer some of these questions the private sector is increasingly turning to a tried and true Source higher education. The idea of scouring campuses for tech talent certainly isn't new, but in other countries, companies are doubling down their efforts to lure and help train future technologists by partnering with colleges and universities on innovation labs internship programs aimed at developing real world digital skills. What that means for us is that the public and private sector in the Caribbean need to work together and at the helm of this are the educational institutions who should use large companies that are moving to our jurisdiction to cultivate emerging technology talent so they don't continue to outsource tech talent.

Specifically, governments and companies should partner with universities to work on it initiatives. And stack a bunch of emerging technology talent. So we increase the pipeline, rethink the curriculums that are being taught in that tertiary education level to include edge technologies and practices to produce the right talent rescale internal colleagues to ensure that what we currently have in that it region, don't get left behind through continuing education. Ultimately, we will need the technology skills that we employ to date at all levels to help us navigate our way through the metaverse tomorrow. So Mr. Sealy, we can open the floor to questions at this point.

### **Java Sealy**

Thank you very,very, very much. Miss Powell. I think that was a really, I can't use any word, but I really can't find a better word to describe the type of conversation that we're having. And you

know, beyond so you've outlined so much specifically regarding, you know, young talent and the skills that are needed from young people. And you know, as we're speaking in an academic context, I don't think we can really mention academia and mentioned, you know, a lot of the issues faced and without mentioning the issue of brain drain, the Caribbean has been notorious for losing a lot of its top talent to I guess what can be considered the slower pace of economic development of as, you know, Caribbean economies, their home economies not being able to utilize their skills as there are current. So want to open the floor now, first, to all of the panelists, particularly by Malibu, and IX. What should we engage first to take advantage of the fourth sight of the metaverse before you answer? Ambassador Abed mentioned in the first conversation that we should begin with the learning campaign, but I find that as the CTU has had the foresight to really have this event, you know, to see that we can see where things are going. Where should we begin then where should we start to take advantage of the metaverse and all of its rich property?

**Kim Mallalieu**

Sure. Right, thanks, Java. Yeah. So if you asked me as you did, where to start, I would say just start by having a forum amongst Caribbean minded folk, which is to say Caribbean folk and folk with the Caribbean have heard about what to the table and that's where I would start, what do you bring to the table? We understand the metaverse is the next generation of the of the Internet and it is an I think is a natural progression in time. What we need is a broad set of knowledge, skills, attitudes. And products. And Z's require a rich ecosystem to use your rich ecosystem of actors, both horizontal and vertical. The first step is to bring to the table all of these Caribbean minded agents from all sectors have a conversation. What do I bring to the table back over to your job?

**Java Sealy**

Thank you before I even add Stuart I like to get your opinion followed by [inaudible]

**Stuart Butler**

Sorry, I didn't quite catch that.

**Java Sealy**

No problem. No, no, no, you may not be particularly familiar with the Caribbean context. But I had I had I was curious to find out, you know, as the Caribbean right now is having arrived, at least the Caribbean Telecommunications Union and the government of Barbados is having the foresight to have any events such as this. I was wondering, you know, where should we start to engage or, you know, below our understanding and use of the metaverse to further develop the Caribbean.

## **Stuart Butler**

I think I think the initial comments from a documentary were really, really pertinent really, that you need to understand what what you already have and what is already there. And then it's understanding about how, what the shortcomings are. So what don't you have and what and when you don't have something, one of the easiest methods to achieve it is to educate. So finding a method in which the skill shortages or the sort of progress, whatever it is that stopping that potential growth in that area, and find a way to bring that into into an education setting to be young people three, you mentioned yourself about the passion that young people have for for these sorts of experiences. This, if you can find those passionate people and give them the skills to produce it, you are going to find some amazing talent that can drive not only the metaverse, but regionally your successes.

And I think for me, one of the things I I enjoy most about my job is finding intensely passionate people who make amazing things from relatively mundane things that we show them because we have to show them things at a level that are kind of absorbable and understanding and something that is we can't show top level stuff straight away. We can't show the most difficult task we can't show the full solution every time because you need to learn you need to get there but then they produce these amazing artifacts out at the end of our courses or modules or or even just a session. And for me that is where you don't you need to not miss out on is that there is so much passion coming through that of people that have grown up. The term digital native gets thrown around for people say maybe 15, 20 years younger than me. But that digital native concept you know, we look at children now who pick up smartphones and don't have any problem using them, compared to my dad who regularly have to explain how to do simple things like turn the camera around on a whatsapp call or something like that. These are simple things but that's because they have an understanding but also a passion for it. If you tap into that wealth of experience and interest, it's already there in young people. I think you can grow that the short you can fix the shortcomings that you might have for your existing infrastructure and skills.

## **Kristie Powell**

Perfect so last is Kristie, Where do you think that we should start?

## **Kristie Powell**

Location question. It's all about opportunity actually in the Caribbean, and I think it's taking a risk, specifically governments and private sector. What I found over the last several years working in the region is that a lot of the technology is still outdoors. And that doesn't give young people an opportunity to grow their skill set and be curious. And I think it's up to organizations like the CTU to continue to push both the public and the private sector to say Listen Mr. Seeley or miss Powell

should have an opportunity to build x y&z and solve problem ABC and when they don't give us the opportunity to actually solve those problems they're doing. They're doing us a disservice by continuing to outsource

**Java Sealy**

All I can say is it's all very curious and very interesting. And one of the things you know, Stuart mentioned that digital native is thrown around a lot. And I mentioned in my opening in my introduction that the metaverse is really going to be for although and I say that for a reason that will be become a lot clearer later. But before I take questions from the audience, we normally have burning questions. The perfect panel for such a discussion as this and therefore I'd like to ask the panelists have questions for each other?

**Kim Mallalieu**

Many but not [inaudible]

**Stuart Butler**

Okay, no problem. So then, Miss Garcia back to the studio with Mr. General. Do we have any questions to field?

**Michelle Garcia**

Yes, Java. We do. questions from our audience. And this question came in from AndrewWelch. Us. What about starting our primary schools level to prepare this coming generation for the new world?

**Java Sealy**

And I asked that question directly. Go ahead.

**Nigel Cassimire**

Yeah. Nigel Cassimire, there is a report and also related to that, which is from Prime [name] was asking how would you advise? How would you advise the Ministry of Education in the region to prepare the youths to take advantage of this trend? So that's a little more general than the one before was very specific to do you think we take this down to the practice?

**Java Sealy**

Perfect, I'll let you have right at it. I can see that somebody who already was very raring to go.

**Kim Mallalieu**

I would say that absolutely. This has to start I would say preschool. It has to start. And it starts with the decision. What is philosophically what is the most important thing for us in the Caribbean? Is it that we want our students to be able to eat exams, and therefore build an educational system backwards from that, starting at preschool where they can pass exams and accelerate exams? Or is it that we want to create a creative society where students are willing and able to feel where students are eager to explore things that they have never seen or heard of before? And and produce things that are meaningful or not? And that is the question we have to ask, what is it that we want and then we work backwards? All the way back to preschool makeover, because we are time limited.

**Java Sealy** I heartily agree. I know I understand. Agree. Stuart. I see that you wanted to speak to go right ahead.

**Stuart Butler**

Yeah, I think absolutely that, that that willingness to fail and try things and explore things I think is key. I would say I've taught a form of programming to six year olds in primary school in the UK that went surprisingly well again. I didn't expect it to if I was honest, it was targeted eight to 10 year olds, but they asked me to teach a six year old class and actually, again, the interest level was there and once there's interest, there will be engagement. And once you've got engagement, you will eventually find success. We think one thing that that for me based on on the previous comment and the previous answer is we at the moment, spend our time making sure people have digital literacy as far as being able to create a point or create a Word document. Why not develop digital he helped to create a small, interactive experience inside the amount of stress or inside a virtual reality application or an AR application. Even something as simple as helping children to use relatively straightforward tools to build an interactive experience can help them get that foothold into in a new area for exploration beyond our can, you know, a cat move across a PowerPoint like that. We can do so much better, and I think absolutely primary schools could benefit from from opening that up to children. Because they are intensely creative and will do interesting, fascinating things that perhaps the adults wouldn't have thought of.

**Java Sealy**

I agree and I think this moment is defined by a sort of a limbo period, where the adults now have to really redefine how we take advantage of the, you know, intuitive or other hole, right? The adults don't have to really find hope we can take advantage of children's familiarity with technology and the user interfaces and designs so that they can benefit from a lot of the natural curiosity that was trained out of us by our very traditional education system. And so Christy, I'll let

you have the final word on this question. Before we take one more before we formally hand back over to Mr. Cassimire for the live q&a session.

**Kristie Powell**

Yeah, I think the question that was posed around the Ministry of Education is an interesting one. I think our educators, again, just from a Caribbean context, don't necessarily have the fortitude that Mr. Butler would have to deliver a course on coding. And so I think we have to make sure that we have people within the region and within the institutions at the primary school level in order to deliver the curriculum that's needed in order to make that happen. If you have a teacher who's in a classroom who's afraid of using the technology, how do you expect them to inspire and motivate a student to become a creator of technology when they themselves are afraid of it? So I think it first starts with a mind a mind shift, and I think one of the previous presentations spoke about training the teachers themselves on how to deliver a lesson using the technology that's different.

**Java Sealy**

Perfect. So, before we move on to Mr. Cassimire Miss Garcia, I'll take one more question for the panel.

**Michelle Garcia**

Thank you. This question is Michelle Baptiste Williams this is directed to Dr Kim Mallalieu, she's asking how is UWI focused on leveraging methods and opportunities with students and becoming a mecca of development and building the digital ecosystem.

**Kim Mallalieu**

Thanks a lot Michelle. Michelle, and Michelle. Yeah, so the thing is, it's it's a process and how we have and the process is it is a series component, there's a parallel component. So there's it's a developmental matter and one of the chronologically one of the starting points is our current activities with respect to digital transformation that lots of organizations across the Caribbean across the world are engaged in. So we're still in that that getting to grips with that digital transformation. That of course, represents a key component of the enabling environment for everything for our business, our academics, etc. So, logically, that's, that's a very big part of it. But also in parallel with that is redefining our curriculum. We are really looking at curricula, looking at curricula fit for the 21st century. And, and that also even while it's in parallel that is progressing a piece chronologically, as different members of our community at different levels of adoption. It is the share of vision as a University of one university not a number of disparate campuses, one university, one identity and all of these and under very much understanding the grounding that



our identity as a university is grounded in the Caribbean identity. So all of these are foundational aspects All be it but there are two dimensional, three dimensional towards readiness for the metals, which as I say, is a natural extension, as I say, and I'm going to hand over over there. There's much more I could add both Michelle's. Back over to you Java.

### **Stuart Butler**

Thank you very much. I'd love to take another question but we are running out of time, by and by all of the panelists to make their closing remarks, but I would first like to say that, you know, the conversation that we're having to, to me is very reminiscent of last year's UNCTAD. 15 held in Barbados where I worked with Dr. Annalee Babb and she was the co-lead organizer of the creative industries and traded utilization forum that really focus on a lot of these core issues especially regarding in education regarding holding reposition. I know she mentioned having a company called Intersections that really focus on analyzing these issues and creating the knowledge so that we can know integrate a lot of what is traditionally seen as government responsibility, with personal responsibility for not only learning but taking advantage of, you know, a world that we usually see as becoming more equitable. Thanks to technology and I know many pandemic came.

### **Java Sealy**

We all, you know, we labeled it as a great equalizer, the great unequalizer, but I think what it has indicated is that the world is much more ready for the metaverse than it may believe. As it relates to opportunity, especially the creative economy now the orange economy has grown exponentially. And I don't think that we can really speak about the growth of the creative economy or education without you know, speaking to the role that technology continues to play within the development and therefore as we are passing along these same skills to young people from as young as preschool, given that you know, everybody born in a time of the Internet is now considered a digital native. You know, we have to not only give them like give them hard technical, technological tools, but really instill in them you know, the same willingness to fail. You know, familiarity with platforms, and understanding innately how to earn from their potential, I think they probably perhaps understand it better than us, especially those who aspire, you know, to be YouTubers to be professional gamers, you know, beyond you know, persons who do digital twinning, and therefore, the conversation is coming to an end. No, I think this is the beginning of a much larger conversation that needs to be had and therefore, I don't want to open the floor to all of our panelists in the order in which they spoke to give their closing remarks.

### **Kim Mallalieu**

Thank you, Joe. My first one in essence, I'd like to make too much remarks if that's okay. On it. Is I would encourage everyone to recognize that these digital literacies and digital skills need to rest

on a bed of traditional literacies and skills. I would be heartbroken to see that we will attempt to replace those traditions. With this new layer. They have to work together. I want people to be literate. I want people to our people to be able to speak and to think and to develop logical arguments as human beings. My second comment for closing is a challenge to the Caribbean Telecommunications Union to convene a meeting of all all to bring to the table. What you are willing to give and what you need. Very simple. Here's what I have. And here's what I need stakeholders from every walks of life, but have an interest in Caribbean development. And that's it for me. Thank you very much for the opportunity Java back to you.

### **Java Sealy**

That means you're next.

### **Stuart Butler**

Yeah, I think I think for me, I just want to say thank you to everybody I've just mentioned I don't have perhaps the same awareness of of the Caribbean sort of setup as many of the other speakers and I found two parts that I managed to join to be fascinating to listen to, and just extend an offer of assistance if anybody would like the input from from myself or folks here at Staffordshire University to to help growth or to help support teachers to develop skills in primary schools to feel the affinity or the comfort to encourage children to explore these areas. Yeah, the door's always open for that conversation if I can help. Thank you.

### **Java Sealy**

Thank you, Kristie, it's all about you

### **Kristie Powell**

I think the only thing I would add is continue to encourage our youth to be curious and continue to work in throat whatever it is that they want to do specifically. But legitimately just think or continue to encourage them to be curious. Thank you and that brings us things three or conversation three of the knowledge Cafe leaders and gentlemen, I want to thank you all to my very my perfect panelists as they label them. Thank you for making this conversation what it was thank you for beginning the conversation that we are going to continue to have all thanks to the Caribbean telecommunications government of Barbados CARICOM, and all the other very important stakeholders. So as we are out of time, I'd now like to hand you over to Mr. Nigel Cassimire the deputy Deputy Secretary General of the Caribbean Telecommunications Union, as well as Michelle Garcia for the interactive open q&a and end of webinar. I have been your moderator Mr. Java Sealy Barbados, CARICOM youth ambassador and the pleasure has been all mine. Thank you for the invitation. Have a great afternoon everyone.

## **Nigel Cassimire**

Java, thanks a lot. Many thanks as well to the panel. I think we had a couple of specific comments coming out of there, one of which related to Dr. Mallalie's suggestion, or urge, that the education on the metaverse and all these digital skills rests on a bed of more general education and skills. That in fact was also a comment coming from one of our viewers, basically asking, you know, in the process of educating, educating our children in Maths, English science and all of the traditional subjects and also convincing them this is the bedrock on which the future with wood depends even in even as we talk about success in the metals. We also heard about, or there were suggestions that we need to go back to preschool and primary school and build up definitely have to be looking at how do we develop the appropriate curriculum, but firmer those types of interventions as we as we go into this preview of the of the method. One thing we read a while very much on the education sector segment here, some comments coming in about interventions in other sectors of the economy. Of course we are in the Caribbean here. We will ask you to so on. They were the questions that came in a bit late for the previous panels, but it's certainly what data that you will take forward as the CTU progress on education and adoption of the metaverse moving forward.

The anticipated interactive q&a, I don't know if any other questions come in that we need to address it or find some way to watch it. All. Right. So we will have your questions here on the on the platform. Right and we respond by the q&a panel.

So, this point remains for me to bring to a close this webinar hosted by the CTU in Canada and they and the government of Barbados on Traversing the Metaverse as the Secretary General Rodnet Ytalor mentioned earlier. This is our initial intervention in this and what we sought to do today is more or less cover a scope of work as I tool. So it's like three to three webinars in one we looked at different themes and going and the information we get from him would guide us in going forward as we as we delve deeper into these specific key themes as may be required to have success for the Caribbean in developing the appropriate policies and taking the appropriate actions to drive our success in the indumentum. I would ask that you look forward to our further interventions from the CTU.

Dr. Mallalieu you have suggested a particular way forward that we can consider and take on board. But the success of these things all comes from focus attention. We will be examining the feedback that we got from our our session today. Identify what we think of highest priority, one of the areas that we did not address into these into the session that maybe we need to bring forward for more attention earlier attention. So, just on behalf of the of the CTU I would like to thank all

our presenters today, moderators and panelists. In the definition section, the excellency Gabriel Abed, the ambassador to the UAE, and Hrish Lotlikan, this is Sebastian from Sandbox and Hrish Lotlikan from Superworld, in the economic opportunities section. We had Mr. Vladimir Radunovic from Diplo in Geneva, the moderator Dr. Annalee Babb, Mr. Lester Garcia. of Meta, Professor Avinash Prersaud, Caricom commission, Alan Emtage computer scientist of Barbados. Our latest panel which dealt with digital skills, Youth Ambassador Java Sealy, Kim Mallalieu of the University of West Indies, Mr. Stuart Butler of Staffordshire University, and Kristie Powell, technologist from the Bahamas. All of you have contributed greatly to the success of this session on the metaverse. And I think from the participation of approximately well close to 500 persons on board through all the platforms, Facebook and YouTube. I think the interest is clear. The level of interest that there is in this topic. Going forward, it will remain on the agenda and the action plans are in demand in demand and ongoing.

**Nigel Cassimire**

So with that, with the thanks from all all all here at the CTU, Michelle here, or host for the whole session, also our support staff here at the CTU Secretariat, thank you very much for your time and your inputs and we look forward to continued successes and growing successes. All in the metaverse. Thank you

**Michelle Garcia**

That's a wrap.